



BRIDGE NO.01213

52980 - NEWTOWN
INTERSTATE 84 EASTBOUND
over
HRRC & BOULEVARD ROAD

Routine Inspection

3/27/2017

Inspected by: HAKS Engineers



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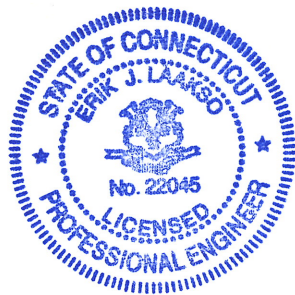
Bridge No. 01213

Interstate 84 Eastbound
Over
Housatonic Railroad & Boulevard Road
Newtown

Inspected By:



Date: 3/27/2017



Personal Certification: I hereby certify that this report, including all of its contents, has been approved by me, and that I am a duly licensed professional engineer under the laws of the State of Connecticut.

Signature: 

License No.: 22045

Date: 4/25/2017

Form: Location

Inspection type: Routine

Inspection Date: 3/27/2017

Inspected by: HAKS Engineers

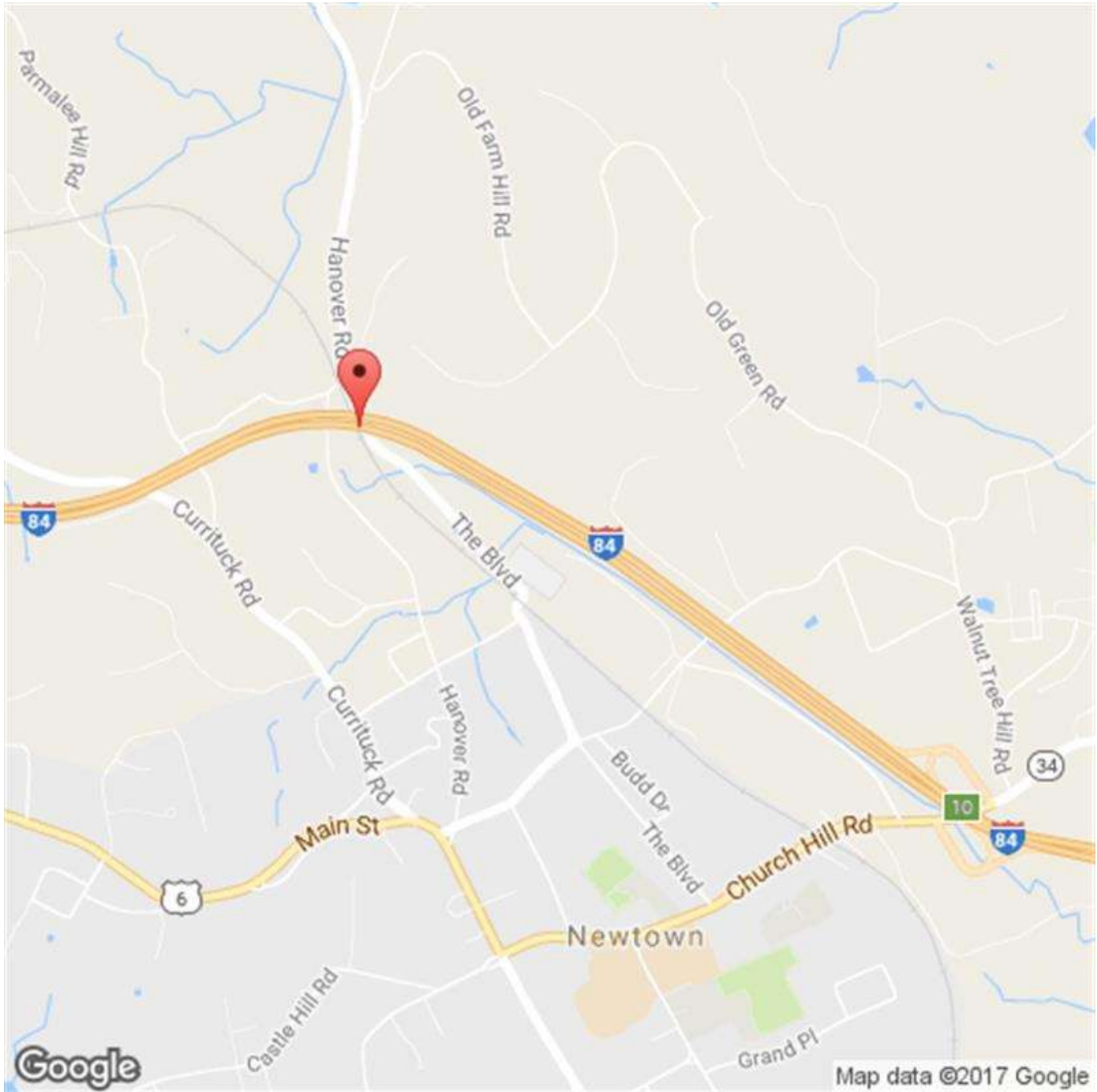
Bridge No: 01213

Town: NEWTOWN

Carried: INTERSTATE 84 EASTBOUND

Crossed: HRRC & BOULEVARD ROAD

Inventory Route: NHS



Location Map # 1

Interstate 84 Eastbound over HRRC & Boulevard Road

Latitude: 41 Deg. 25 Min. 44.74 Sec.

Longitude: -73 Deg. 18 Min. 52 Sec.

Form: BRI-19, Rev. 2/15
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STRUCTURE INVENTORY & APPRAISAL

INSPECTION

Structurally Deficient Functionally Obsolete
Sufficiency Rating
(90) Inspection Date (91) Frequency
Indepth Insp Proposed next Indepth Year
Deck Survey Date Class
Access Flagman

	Frequency	Date	Type
Fracture	<input type="text"/>	<input type="text"/>	<input type="text"/>
Underwater	<input type="text"/>	<input type="text"/>	<input type="text"/>
Special	<input type="text"/>	<input type="text"/>	<input type="text"/>

IDENTIFICATION

Bridge Name
Town Code - Name
(5) Inventory Route
(A) Record Type
(B) Signing Prefix
(C) Level of Service
(D) Route Number.
(E) Dir Suffix
(6A) Featured Intersected
(6B) Critical Facility Indicator
(7) Facility Carried
(9) Location
(11) Mile Post Miles
(16) Latitude Deg. Min. Sec.
(17) Longitude Deg. Min. Sec.
(98) Border Bridge
(A) State Code (B) Percent Responsibility %
(C) Border Town Name
(99) Border Bridge Structure No.

STRUCTURE TYPE & MATERIALS

(43) Structure Type, Main
A) Material
B) Design Type
(44) Structure Type, Approach
A) Material
B) Design Type
(45) Number of Spans, Main Unit
(46) Number of Approach Spans
(107) Deck Structure Type
(108) Wearing Surface/Protection Systems
A) Type of Wearing Surface
B) Type of Membrane
C) Type of Deck Protection
Substructure
A) Material
B) Design Type
Paint
Type
Year
Comment

GEOMETRIC DATA

(48) Length of Maximum Span ft.
(49) Structure Length ft.
(50) Curb or Sidewalk Widths
A) Left ft. in. B) Right ft. in.
(51) Bridge Roadway Width Curb to Curb ft. in.
(52) Deck Width, Out to Out ft. in.
(32) Approach Roadway Width ft.

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(33) Bridge Median
Deck Area sq. ft.
(34) Skew Angle deg.
(35) Structure Flared
(10) Inv. Rte. Min. Vert. Clearance ft. in.
(47) Inv. Rte. Total Horiz. Clr. ft. in.
Log Inv. Rte. Total Horiz. Clr. ft. in.
RLog Inv. Rte. Total Horiz. Clr. ft. in.
(53) Min. Vert. Clearance Over Bridge ft. in.
(54) Log-Min. Vert. Underclearance ref. ft. in.
(55) Min. Lat Underclearance on Right ref. ft. in.
(56) Min. Lat Underclearance on Left ft. in.

CONDITION

(58) Deck
(59) Superstructure
(60) Substructure
(61) Channel & Channel Protections
(62) Culverts
(36) Traffic Safety Features
A) Bridge Railings
B) Transitions
C) Approach Guardrail
D) Approach Guardrail Ends

WATERWAY

Drainage Basin Waterway
(38) Navigation Control
(39) Navigation Vertical Clearance ft.
(40) Navigation Horiz. Clr. ft.
(111) Pier/Abutment Navigation
(116) Vert-Lift Brg Nav Min ft. in.

AGE AND SERVICE

Year Built (106) Year Reconstructed
(42) Type of Service
A) On
B) Under
(28) Number of Lanes
A) On B) Under
(29) Average Daily Traffic
Is Above Half ADT?
(109) Percent Truck %
(30) Years of ADT
(19) Bypass, Detour Length Miles

APPRAISALS

(67) Structural Evaluation
(68) Deck Geometry
(69) Underclearances, Vert. & Horiz.
(71) Waterway Adequacy
(72) Approach Roadway Alignment
(113) Scour Critical

COMMENTS

CLASSIFICATION

(112) NBIS Bridge Length
(104) Highway System
(26) Functional Class
(100) Defense Highway
(101) Parallel Structure
(102) Direction of Traffic

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(103) Temporary Structure
 (110) Designated National Network
 (20) Toll
 (21) Maintain
 (22) Owner
 Report Class
 (37) Historical Significance

POSTED SIGNS

Other Posted Sign 1
 Other Posted Sign 2

	Actual	Recomended	
Posted Load Single Unit Truck	<input type="text"/>	<input type="text"/>	tons
Posted Load Semi-Trailer Truck	<input type="text"/>	<input type="text"/>	tons
Posted Load 4 Axle Truck	<input type="text"/>	<input type="text"/>	tons
Posted Load 3S2 Truck	<input type="text"/>	<input type="text"/>	tons
All Vehicles	<input type="text"/>	<input type="text"/>	tons
Posted Vert. Clearance on Bridge	<input type="text"/> ft.	<input type="text"/> in.	
Posted Vert. Underclearance	<input type="text"/> ft.	<input type="text"/> in.	
Posted Speed Limit on Bridge	<input type="text"/> m.p.h.		

OTHER FEATURES

Fence Required
 Fence Present
 Fence Type
 Fence Height
 Fence Material
 Fence Top Type
 Barrel Ladders
 Stand Pipes
 Catwalks
 Moveable Inspection System
 Haunches Present over Roadway
 Utilities

PROPOSED IMPROVEMENTS

(75A) Type of Work Proposed
 (75B) Work Done By
 (76) Length of Structure Improvement ft.
 (94) Bridge Improvement Cost \$
 (95) Roadway Improvement Cost \$
 (96) Total Project Cost \$
 (97) Year of Improvement Estimate
 (114) Future ADT
 (115) Year of Future ADT
 DOT Bridge Program List No
 Project No
 Advertised Date

LOAD RATING & POSTING

(31) Design Load
 (63) Operating Rating Type
 (64) Operating Rating
 (65) Inventory Rating Type
 (66) Inventory Rating
 Evaluation Code
 Year of Evaluation
 (70) Bridge Posting
 (41) Structure Status

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Inventory Route: NHS

INSPECTOR'S SIGNATURES:

1) V. Raghunam Reddy Date: 04/25/2017

2) Shandani Date: 04/25/2017

3) _____ Date:

4) _____ Date:

P.E. SIGNATURE: [Signature] Date: 04/25/2017

P.E. # 22045

Reviewed By: [Signature] Date: 05/15/2017

Form: BRI-18, Rev. 1/14
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FIELD INSPECTION REPORT

Location:	1.5 MI WEST OF SR 816	Year Built:	1962	Snooper Required:	<input checked="" type="checkbox"/>
Main Material:	3 - Steel	Year Rebuilt:	1990	Snooper Used:	<input checked="" type="checkbox"/>
Main Design:	02 - Stringer/Multi-beam or				

Inspectors:

Lead Inspector:	Raghu Vuppula
Inspector:	Task:
Shandermani, Alireza	BSE - Inspector
Vuppula, Raghu	BSE - Inspector

Visits:

Visit Date:	Temp:	Start Time:	End Time:
03/27/2017	44	08:30 AM	02:30 PM
04/05/2017	50	08:30 AM	02:30 PM

58. DECK:

REINFORCED CONCRETE DECK BITUMINOUS OVERLAY W/WATERPROOFING MEMBRANE	Overall Rating: 7
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Rating

Overlay:	7	Bituminous overlay: - Paving seams are slightly open. - Random filled core holes. See sheets 21-24 and photo 8.
Deck - Str. Condition:	7	Underside of deck: - Random transverse hairline cracks with and without efflorescence. - Span 1, bay 3 & 4 have areas of hairline map cracking up to 6' x 8'. - Span 2 has random areas of dampness in bays 2 & 3. See sheets 26, 27 & 29 and photos 9 & 10.
Curbs:	7	Sloped granite curbs have areas of chipping, scrapes & stains. Average curb reveal along both sides is 2-1/2". See sheets 21-24 and photo 11.
Median:	N	
Sidewalks:	N	
Parapet:	7	Concrete parapets: - Areas of light to moderate scaling & a few scrape marks. - Random vertical hairline cracks; some extend across the top. Span 3, south parapet near mid-span has 2' x 1' x 1/4" deep impact scrapes. See sheets 21-24 and photos 11 & 12.
Railing:	6	Single aluminum extruded railings: - Random minor scrape marks and gouges. - North railing, east tapered end is broken-off/missing. - South railing has a fully cracked weld at the west tapered end. Both anchor bolts are slightly backed off. See sheets 21-24 and photos 7, 11 & 13.
Paint:	N	
Fence:	N	

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Drains: 6 Span 1, south scupper pipe at Pier 1 is fully clogged and the grate is 60% clogged.
See sheets 21-24 and photo 14.

Lighting Standard: N

Overall Utility Condition Rating N - Not Applicable

Utility Type/Size

N | No Utilities present

Construction Joints: 7 Bays 2 and 4 longitudinal construction joints have areas of light efflorescence and dampness.

Expansion Joint: 6 Asphaltic plug joints at abutments and piers are in place since last inspection.
- Isolated areas of exposed aggregate with small voids up to 20' long x up to full width.
Abutment 1 joint has a few voids up to 1' long x 2" wide x 1/2" deep.
Abutment 2 joint has a full length x up to 1/8" wide adhesion crack on the approach side. Areas of active leakage were noted below.
See sheets 21-24 and photos 15-18.

Haunches Present over travelway? NO

APPROACH CONDITION:

BITUMINOUS PAVEMENT

Overall Rating: 7

Rating

Approach Slab: N

Relief Joints: N

Approach Guide Rail: 7 Concrete Jersey Barriers at northwest & southwest corners (leading end).
- Random scrape marks.
- Southwest approach barrier is laterally misaligned up to 3" at the end of the wingwall parapet.
Metal beam guide rails at northeast & southeast corners (trailing end).
- Northeast approach guide rail has been repaired since the last inspection, but it is not attached to the end of the wingwall parapet.
See sheets 21, 22 & 24 and photos 19-21.

Approach Pavement: 7 Bituminous pavement.
- Paving seams are open up to 1/4".
See sheets 21, 22 & 24 and photo 22.

Approach Embankment: 7 Steep and vegetated at NW & SW.

Traffic Safety Features

Bridge Railings: 0 Less than 42" solid concrete parapet on NHS.

Transitions: 1

Approach Guardrails: 1

Approach Guardrail Ends: 1

59. SUPERSTRUCTURE:

STEEL MULTI-GIRDER

Overall Rating: 6

Rating

Bearing Devices: 4 Sliding expansion bearings at Abutment 1:

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		<ul style="list-style-type: none"> - Random areas of peeling paint and light to heavy rust. - Bearings have evidence of movement at 50 degrees Fahrenheit. - Most bearings were in expansion except for G1 & G3 bearings which were in contraction. - G5 bearing has up to 3/16 pack rust between the sole and sliding plates (See photo 24). <p>Rocker expansion bearings at Pier 1 in Span 2 and at Abutment 2:</p> <ul style="list-style-type: none"> - Random areas of peeling paint with light to heavy rust, mainly fascia bearings. See photos 25 & 26. - Evidence of movement at 44 – 50 degrees Fahrenheit. - Most bearings were in expansion except for G1 & G3 bearings at Abutment 2 which were in contraction. - Random bearings have abrasion rust between the rockers and sole plates. See photo 25. - Random anchor bolts are missing and/or have rose-budding with up to 100% section loss. - G6 masonry plate at Pier 1 overhangs the pedestal on front by up to 1" (loss of bearing area 12.5%). See photo 26. <p>Fixed bearings at Piers 1 & 2:</p> <ul style="list-style-type: none"> - Areas of peeling paint with light to heavy rust. - Random bearings have up to 5/16" thick pack rust below masonry plates. - Random anchor bolt nuts have up to 100% section loss. <p>See sheets 15-17, 25-27 & 29 and photos 23-27.</p>
Stringers:	N	
Girders:	6	<p>ROLLED BEAMS W/ RETROFITTED BOLTED COVER PLATES:</p> <ul style="list-style-type: none"> - Random areas of peeling paint with light to heavy rust, mainly at piers. - Random areas of pack rust up to 11/16" thick between original bottom flange cover plate and bolted cover plates (Worst at girder G6 near Abutment 2). There is some distortion of the plates due to the pack rust. - Girders ends have areas of painted areas over pitting/section loss up to 3/16" deep resulting in <5% web loss for shear & <25% web loss for bearing. <p>Span 2, north side of girder G6 at Pier 2 has a 4' long x up to full height (along diaphragm connection plate) x up to 3/16" deep section loss. South side has no loss. Web loss for shear is 14% & web loss for bearing is <25%.</p> <p>Span 2, south side of girder G6 near Pier 2 has a moderate accumulation of debris on top of bottom flange for +/-13' long. Also, there is a 18" long x up to 2" high area of heavy laminated rust on the flange.</p> <p>See sheets 25-29 and photos 28-35.</p>
Floor Beams:	N	
Trusses - General:	N	
Trusses - Portals:	N	
Trusses - Bracing:	N	
Paint:	7	Less than 10% of painted surfaces have deterioration.
Rust:	5	See items above.
Machinery Movable Span:	N	
Rivets & Bolts:	8	
Welds - Cracks:	6	<p>All girder cover plates have been retrofitted with bolted plates. See item "GIRDERS" above.</p> <p>All girder cover plate end welds (Fatigue category - E') were checked 100% hands-on. No notable deficiencies.</p> <p>See sheets 25-27 & 29 and photos 28 & 29.</p>
Timber Decay:	N	

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 Inventory Route: NHS

Concrete Cracking:	N	
Collision Damage:	8	
Member Alignment:	7	Span 2, girder G4 bottom flange at the east end of the cover plate is bent upwards up to 1/4" for 1-1/2' long x full width (appears to be as-built). Also see above items. See sheet 27 and photo 36.
Deflection Under Load:	N	(N) - Normal; (E) - Excessive
Vibration Under Load:	N	(N) - Normal; (E) - Excessive
Stand Pipes:	N	
Catwalks:	N	
Movable Inspection System:	N	
Barrel Ladders:	N	
Are Barrel Ladders OSHA Compliant?		NA

60. SUBSTRUCTURE:

REINFORCED CONCRETE ABUTMENTS AND PIERS

Overall Rating: 5

Rating

Abutments - Stem:	6	Abutment 1: - Random vertical hairline cracks and a few popouts along the bottom at the south end. Abutment 2: - Full height vertical crack below bay 3 that is open up to 7/16" wide and it extends across the seat into the backwall. No change. - 2' long x 1' high hollow area and a small popout below bay 5. - Full height x 3' long hairline map cracks with and without rust stains below girder G6. See sheets 30 & 31 and photos 37 & 38.
Abutments - Backwall:	7	Backwalls have random vertical hairline cracks. Abutment 2 backwall below bay 3 has a full height x up to 3/8" wide crack. See sheets 30 & 31 and photos 18, 37 & 38.
Abutments - Footings:	N	Not visible.
Abutments - Settlement:	7	See 'Abutments - Stem' above.
Abutments - Wingwalls:	7	Wingwalls have random vertical hairline cracks. See sheets 32 & 33 and photo 39.
Piers/Bents - Caps:	5	Concrete pier caps have areas of light to moderate scaling throughout. Pier 1 cap: - Random vertical & horizontal cracks up to 6' long x up to 1/16" wide with or without efflorescence and rust stains. - Random hollow areas up to 5' wide x up to 10" high with and without efflorescence, isolated areas extend up to 10" across the top or underside of cap. - Random concrete patches. See photos 41-43. Pier 2 cap: - Random vertical & horizontal cracks up to 3' long x up to 1/16" wide with or without efflorescence and rust stains.

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	<ul style="list-style-type: none"> - Random hollow areas up to 4' wide x up to 3' high with and without efflorescence, isolated areas extend up to 1' across the top or underside of cap. - Random concrete patches. <p>See photos 40 & 44.</p> <p>PEDESTALS: The following pedestals have hairline cracks, scaling, hollow areas or spalls with no undermining:</p> <ul style="list-style-type: none"> - Pier 1, southwest corner of girder G1 pedestal in Span 1 has a 8" wide x 4" long x 2-1/2" high spall. See photo 42. - Pier 1, southwest corner of girder G5 pedestal in Span 1 has a 4" long x 1-1/2" wide x +/-1/2" deep spall. - Pier 1, south side of girder G6 pedestal has severe scaling for full length. - Pier 2, south side of girder G2 pedestal in Span 2 has a vertical hairline crack that extends across the top to the anchor bolt. See photo 45. - Pier 2, south side of girder G6 pedestal in Span 2 has a 3" x 2" x 2" deep spall. - Pier 2, south side of girder G5 pedestal in Span 3 has a 8" long x 6-1/2" wide hollow area with edge cracks that extend to the masonry plate. See photo 46. <p>See sheets 34-37 and photos 40-46.</p>
Piers/Bents - Pile Bent:	N
Piers/Bents - Columns:	5
	<p>Concrete pier columns:</p> <ul style="list-style-type: none"> - Random vertical hairline cracks up to 1-1/2' long with and without efflorescence. - Random concrete patches with random hairline vertical, horizontal & map cracks. See photos 40, 41 & 48. - Random hollow areas up to 40" high x up to full width. See photos 47 & 49. - Isolated spalls up to 2' x 1' x 1" deep. See photo 48. <p>Pier 1 crash wall has light to moderate graffiti.</p> <p>See sheets 34-37 and photos 40, 41 & 47-49.</p>
Piers/Bents - Footings:	7
	<p>Pier 1 sheet pile has been exposed on the east side for full length x up to 1-1/2' high (as-built).</p> <p>See sheet 35 and photo 50.</p>
Piers/Bents - Settlement:	8
	None noted.
Erosion - Scour:	8
	Erosion - Rating = 8.
	Scour - N/A.
Concrete Crack - Spall:	5
	See items above.
Steel Corrosion:	N
Paint:	N
Timber Decay:	N
Collision Damage:	8
Debris:	5
	<p>Light to heavy accumulation of debris on both pier caps and around bearings (mainly at Pier 1).</p> <p>See sheets 34-37 and photo 51.</p>

61. CHANNEL AND CHANNEL PROTECTION:

Overall Rating:

Rating

Channel - Scour:	N
Embankment - Erosion:	N
Debris:	N

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Vegetation:	N	
Channel Change:	N	
Fender - System:	N	
Spur Dikes and Jetties:	N	
Rip Rap:	N	

62. CULVERTS AND RETAINING WALLS:

Overall Rating:

Rating

Barrel:	N	
Concrete:	N	
Steel:	N	
Timber:	N	
Headwall:	N	
Cutoff Wall:	N	
Debris:	N	
Retaining Wall System:	N	
Footing:	N	

LOAD POSTING:

Rating

Single Unit (Tons):		
Semi Trailer (Tons):		
4 Axle (Tons):		
3S2 (Tons):		
All Vehicles:		
Advanced Warning:		
Warning At Bridge:		
Legibility:		
Visibility:		

VERTICAL CLEARANCE POSTING

Min. Vert Under Clearance:	17	Ft	6	In	over Boulevard Road.
Posted Clearance Under Bridge:		Ft		In	
Posted Clearance On Bridge:		Ft		In	
Advanced Warning:					
Warning At Bridge:					
Legibility:					
Visibility:					

NOTES / COMMENTS:

Character of Traffic:

Additional Notes:

1. Bridge Identification Number was stenciled at the time of inspection.
2. Bridge is logged from west to east with girder G1 at the north fascia which is consistent with previous inspection reports & plans.
3. Spans 1 & 2 were inspected using a 60' snooper, Housatonic Railroad Flagman & a single lane closure with trooper. Span 3 was

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inspected using a 45' lift with local police and alternating one-way lane closures on Boulevard Road.

4. Inspected in conjunction with Bridge No. 01212.

Additional Comments:

National Bridge Elements
Inspection type: Routine
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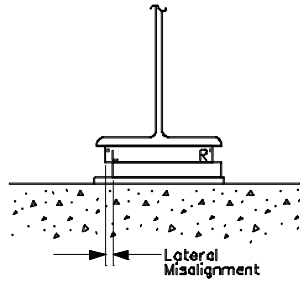
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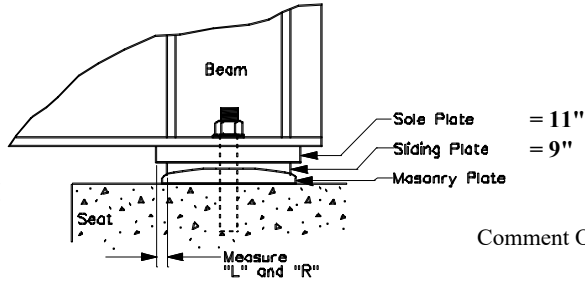
	Environment	Total Quantity	Units	Condition State 1	Condition State 2	Condition State 3	Condition State 4
12 - Reinforced Concrete Deck	Mod.	10441	sq. ft.	10277	164	0	0
1120 - Efflorescence/Rust Staining		88		0	88	0	0
1130 - Cracking (RC and Other)		76		0	76	0	0
107 - Steel Open Girder/Beam	Mod.	1339	ft.	1151	128	60	0
1000 - Corrosion		188		0	128	60	0
205 - Reinforced Concrete Column	Mod.	8	each	1	7	0	0
1080 - Delamination/Spall/Patched Area		5		0	5	0	0
1130 - Cracking (RC and Other)		2		0	2	0	0
215 - Reinforced Concrete Abutment	Mod.	118	ft.	110	8	0	0
1080 - Delamination/Spall/Patched Area		2		0	2	0	0
1130 - Cracking (RC and Other)		6		0	6	0	0
234 - Reinforced Concrete Pier Cap	Mod.	102	ft.	52	44	6	0
1080 - Delamination/Spall/Patched Area		32		0	32	0	0
1120 - Efflorescence/Rust Staining		6		0	0	6	0
1130 - Cracking (RC and Other)		12		0	12	0	0
311 - Movable Bearing	Mod.	18	each	8	4	6	0
1000 - Corrosion		8		0	4	4	0
2210 - Movement		2		0	0	2	0
313 - Fixed Bearing	Mod.	18	each	0	12	6	0
1000 - Corrosion		18		0	12	6	0
330 - Metal Bridge Railing	Mod.	464	ft.	462	1	1	0
1020 - Connection		1		0	1	0	0
7000 - Damage		1		0	0	1	0
331 - Reinforced Concrete Bridge Railing	Mod.	464	ft.	352	112	0	0
1120 - Efflorescence/Rust Staining		19		0	19	0	0
1130 - Cracking (RC and Other)		93		0	93	0	0

SLIDING BEARING MEASUREMENTS

Form BRI - 14, Rev 9/01



FRONT VIEW



SIDE VIEW

Span No. = 1

Substructure Unit = ABUTMENT 1

Temperature = 50°F

- Comment On:
- Presence of keepers or work done on bearings.
 - Undermining of bearing.
 - Cracking of plates or welds
 - Condition of anchor bolts.
- Neutral = 1"** Attach sketch with dimensions.

Beam	Movement				Condition			Comments
	" L "	" R "	Mode Exp. or Contr.	Lateral Misalign.	Bearing Frozen?	Normal Mov't	Rust ? H/M/L	
G1	1 3/16	1 3/16	C	0	N	Y	M	
G2	15/16	15/16	Exp.	1/8" N	N	Y	M	
G3	1	1 1/16	C	0	N	Y	H	
G4	1 1/16	14/16	Exp.	0	N	Y	L	
G5	14/16	1	Exp.	3/16" N	N	Y	L	UP TO 3/16" PACK RUST BETWEEN SOLE & SLIDING PLATES.
G6	1 3/16	9/16	Exp.	0	N	Y	L-M	HVY. RUST ON MASONRY PLATE.

General Notes: Bearings have areas of peeling paint with light to moderate rust.

ROCKER BEARING MEASUREMENTS

Form BRI - 15, Rev 9/97

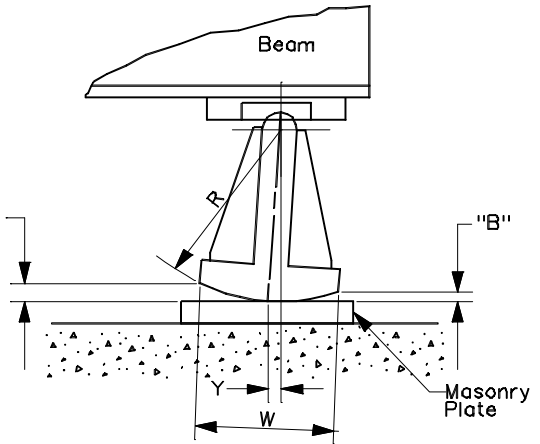
Span No. = 2

Substructure Unit = PIER 1

Temperature = 50 °F

$\theta = \sin^{-1} (F-B)/W$
 $Y = R \tan \theta$

The "Front" of the bearing is the side facing the fixed bearing.



R = 6 1/2 inch
W = 8 inch

NOTE:

"F" & "B" should be measured at the left side corners of the rocker or on the side closest to the front face of the substructure on skewed bridges.

Beam	" F "	" B "	Y	Cont or Exp.	Comments
G1	1 8/16	14/16	8/16	E	
G2	1 4/16	11/16	7/16	E	
G3	14/16	12/16	2/16	E	
G4	1 5/16	7/16	11/16	E	
G5	1 6/16	8/16	11/16	E	
G6	1 1/4	1	3/16	E	MISSING SOUTH ANCHOR BOLT NUT.
					GENERAL NOTES:
					HEAVY LAMINATED RUST ON ROCKER & MASONRY PLATE.

ROCKER BEARING MEASUREMENTS

Form BRI - 15, Rev 9/97

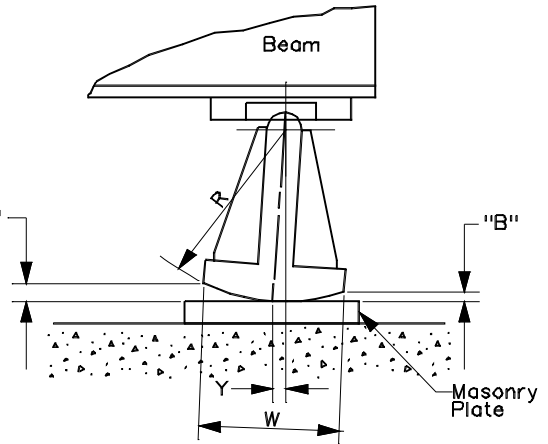
Span No. = 3

Substructure Unit = ABUTMENT 2

Temperature = 44 °F

$\theta = \sin^{-1} (F-B)/W$
 $Y = R \tan \theta$

The "Front" of the bearing is the side facing the fixed bearing.



R = 6 1/2 inch
W = 8 inch

NOTE:

"F" & "B" should be measured at the left side corners of the rocker or on the side closest to the front face of the substructure on skewed bridges.

Beam	" F "	" B "	Y	Cont or Exp.	Comments
G1	1 7/16	1 8/16	- 1/16	C	MISSING BOTH ANCHOR BOLT NUTS.
G3	1 2/16	1 9/16	- 6/16	C	
G6	1 8/16	1 7/16	1/16	E	
					GENERAL NOTES:
					ABRASION RUST BTWN ROCKER & SOLE PLATE.

Form: BRI-12, Rev. 1/14
 Inspection type: Routine
 Inspection Date: 3/27/2017
 Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
 Carried: INTERSTATE 84 EASTBOUND
 Crossed: HRRC & BOULEVARD ROAD
 Inventory Route: NHS

FRACTURE CRITICAL MEMBERS / FRACTURE PRONE DETAILS

Inspectors:

Lead Inspector:	Raghu Vuppula
Inspector:	Task:
Shandermani, Alireza	BSE - Inspector
Vuppula, Raghu	BSE - Inspector

Visits:

Visit Date:	Temp:	Start Time:	End Time:
03/27/2017	44	08:30 AM	02:30 PM
04/05/2017	50	08:30 AM	02:30 PM

Fracture Critical Inspection Frequency: Months

Fracture Critical Type Code:

Structure Type: Highway Bridges **Year Built:** 1962 **ADT:** 39900 **Year of ADT:** 2015 **% Truck:** 9

Access Equipment Needed: 60' snoopers & 30' bucket truck.

Traffic Control Required: Alternating one-way lane closure on Boulevard Road and right lane closure on Interstate 84 EB.

Reference to Plans: Project Nos. 96-74 (1958) & 174-168 (1989)

MEMBER/DETAIL TYPE # 1

Member/Details Type: M Partial length welded cover plates

Fracture Critical: No

Fatigue Category: E' **Steel Type:** A-373

Fatigue Prone: Yes

Description: Girder bottom flanges with partial length cover plate end welds. Girder bottom flange thickness >0.8".

Inspection Procedure: 100% hands-on.

Condition Comments: Cover plate end welds have no notable deficiencies. All girder cover plates were retrofitted with bolted plates, See BRI-18.

Procedure Followed This Inspection? Yes **If No please explain:**

Sketches

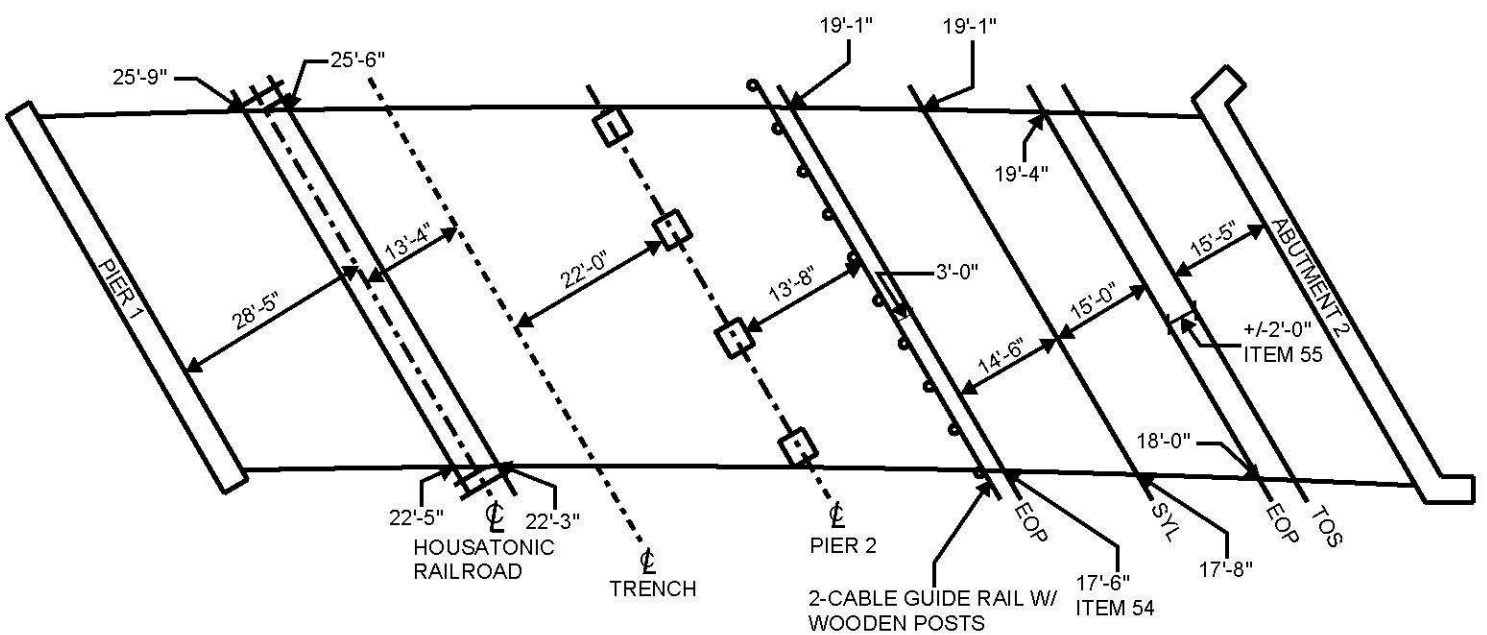
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS	DATE: 03/27/2017	BRIDGE NO.: 01213
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LOG DIRECTION OF ROUTE ON BRIDGE →



LEGEND:
 SYL - SOLID YELLOW LINE
 EOP - EDGE OF PAVEMENT
 TOS - TOE OF SLOPE

CLEARANCE DIAGRAM - SPANS 2 & 3
 NTS

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

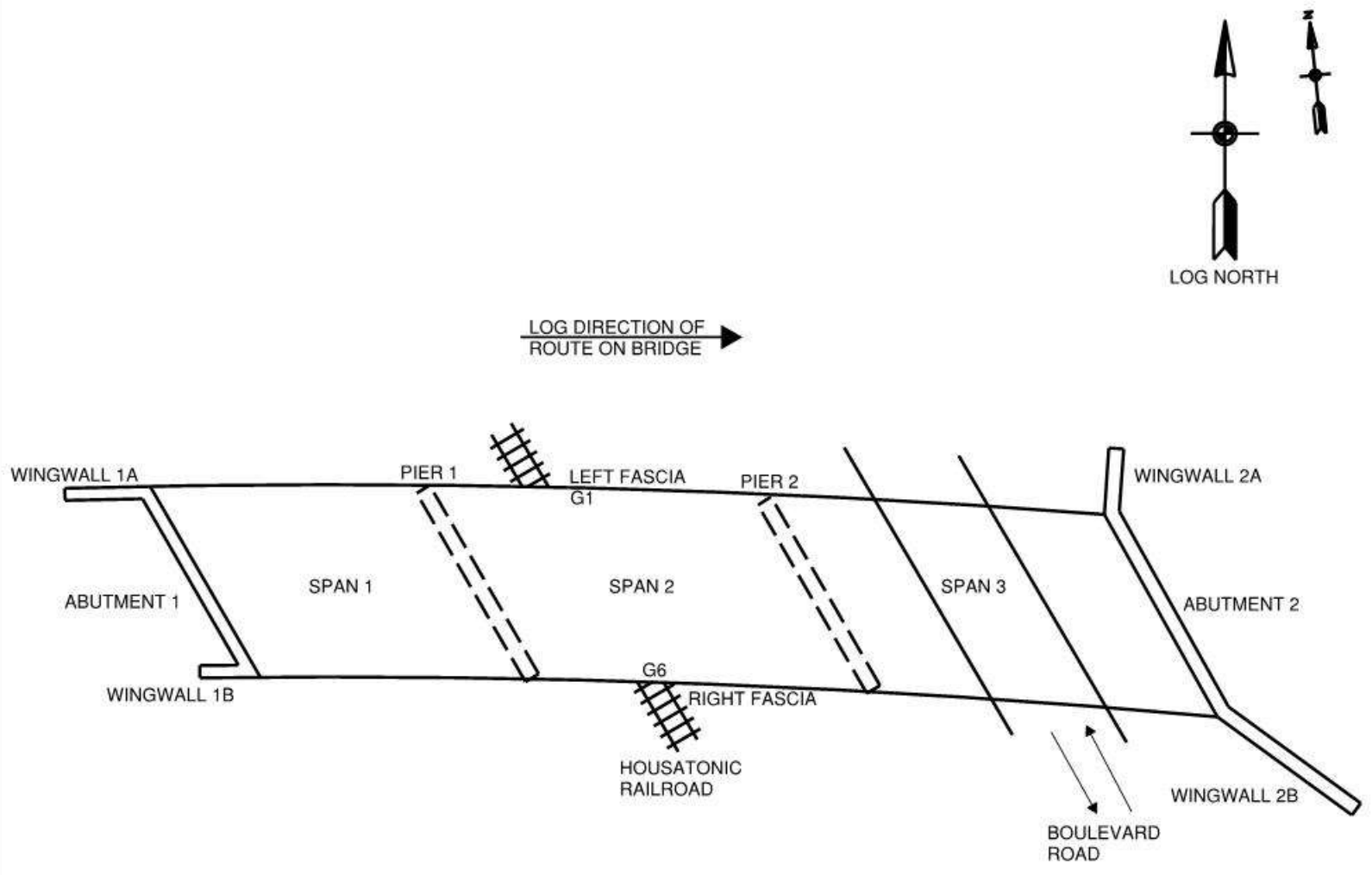
Sketches

Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRR & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS	DATE: 03/27/2017	BRIDGE NO.: 01213
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KEY PLAN
NTS

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

Sketches

Inspection type: Routine

Inspection Date: 3/27/2017

Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN

Carried: INTERSTATE 84 EASTBOUND

Crossed: HRRC & BOULEVARD ROAD

Inventory Route: NHS

CREW: AS, RV	DATE: 04/05/2017	BRIDGE NO.: 01213
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TOP OF DECK - GENERAL NOTES

BITUMINOUS OVERLAY:

- PAVING SEAMS ARE SLIGHTLY OPEN.
- RANDOM FILLED CORE HOLES.

SLOPED GRANITE CURBS:

- RANDOM AREAS OF CHIPPING, SCREAPS & RUST STAINS.
- AVERAGE CURB REVEAL IS 2-1/2" ALONG BOTH SIDES.

PARAPET:

- AREAS OF LIGHT TO MODERATE SCALING & A FEW SCRAPE MARKS.
- RANDOM VERTICAL HAIRLINE CRACKS, SOME EXTEND ACROSS TOP.

SINGLE EXTRUDED ALUMINUM RAILINGS:

- RANDOM MINOR SCRAPES & GOUGES.

ASPHALTIC PLUG JOINTS:





- ISOLATED AREAS OF EXPOSED AGGREGATE WITH SMALL VOIDS UP TO 20' LONG x FULL WIDTH.

APPROACH GUIDE RAIL:

- CONCRETE JERSEY BARRIERS W/ RANDOM SCRAPE MARKS.
- NORTHEAST METAL BEAM GUIDE RAIL HAS BEEN REPAIRED SINCE THE LAST INSPECTION. NOT ATTACHED TO END OF WINGWALL PARAPET.

BITUMINOUS APPROACH PAVEMENT:

- PAVING SEAMS ARE OPEN UP TO 1/4" WIDE.

REVISION 	DATE:	CREW:	REVISION 	DATE:	CREW:
REVISION 	DATE:	CREW:	REVISION 	DATE:	CREW:

Sketches

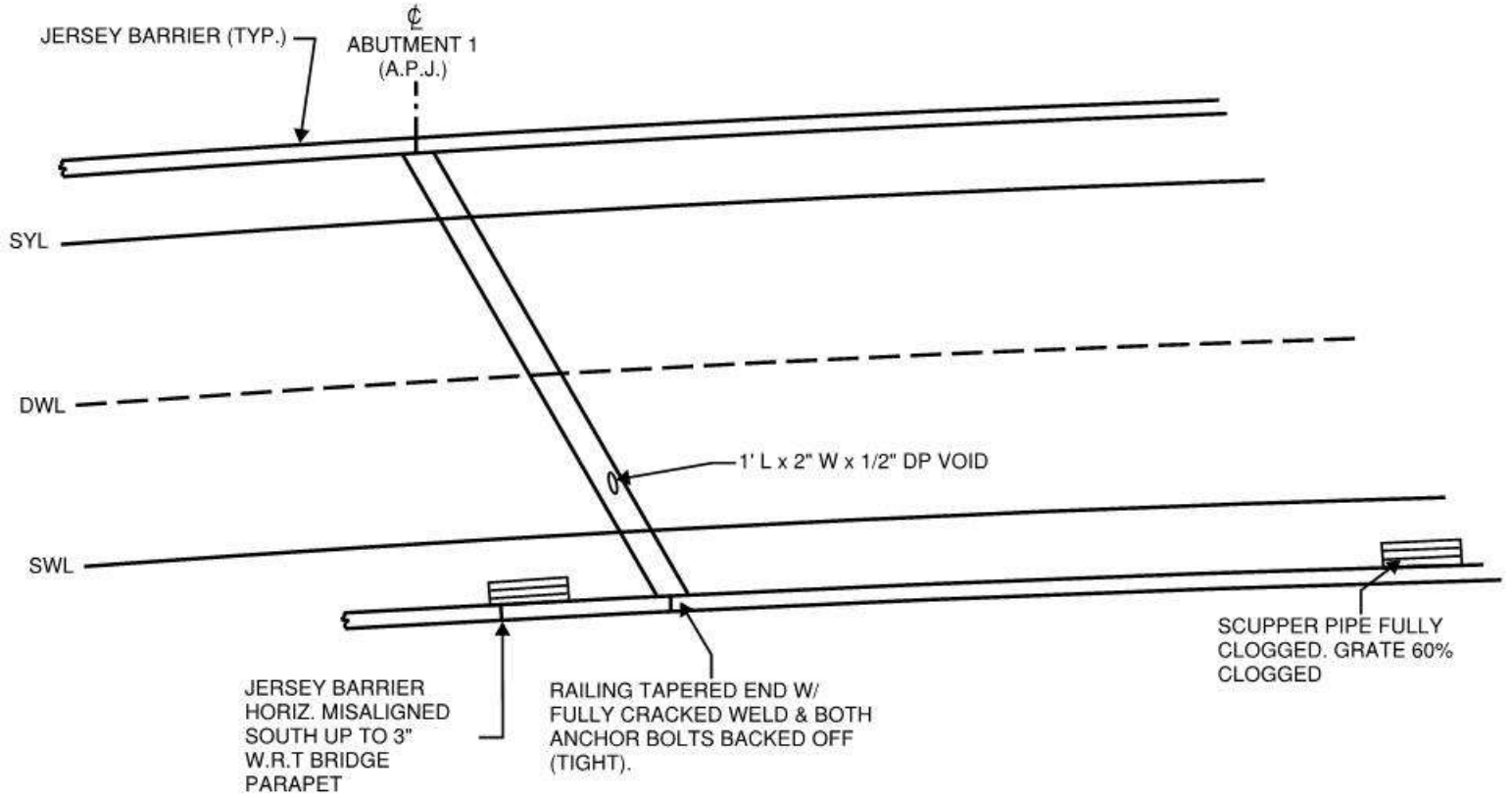
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: AS, RV	DATE: 04/05/2017	BRIDGE NO.: 01213
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LOG DIRECTION OF ROUTE ON BRIDGE →



- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT
 - SYL SOLID YELLOW LINE
 - DWL DASHED WHITE LINE
 - SWL SOLID WHITE LINE

TOP OF DECK - SPAN 1
 NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
REVISION	DATE:	CREW:	REVISION	DATE:	CREW:

Sketches

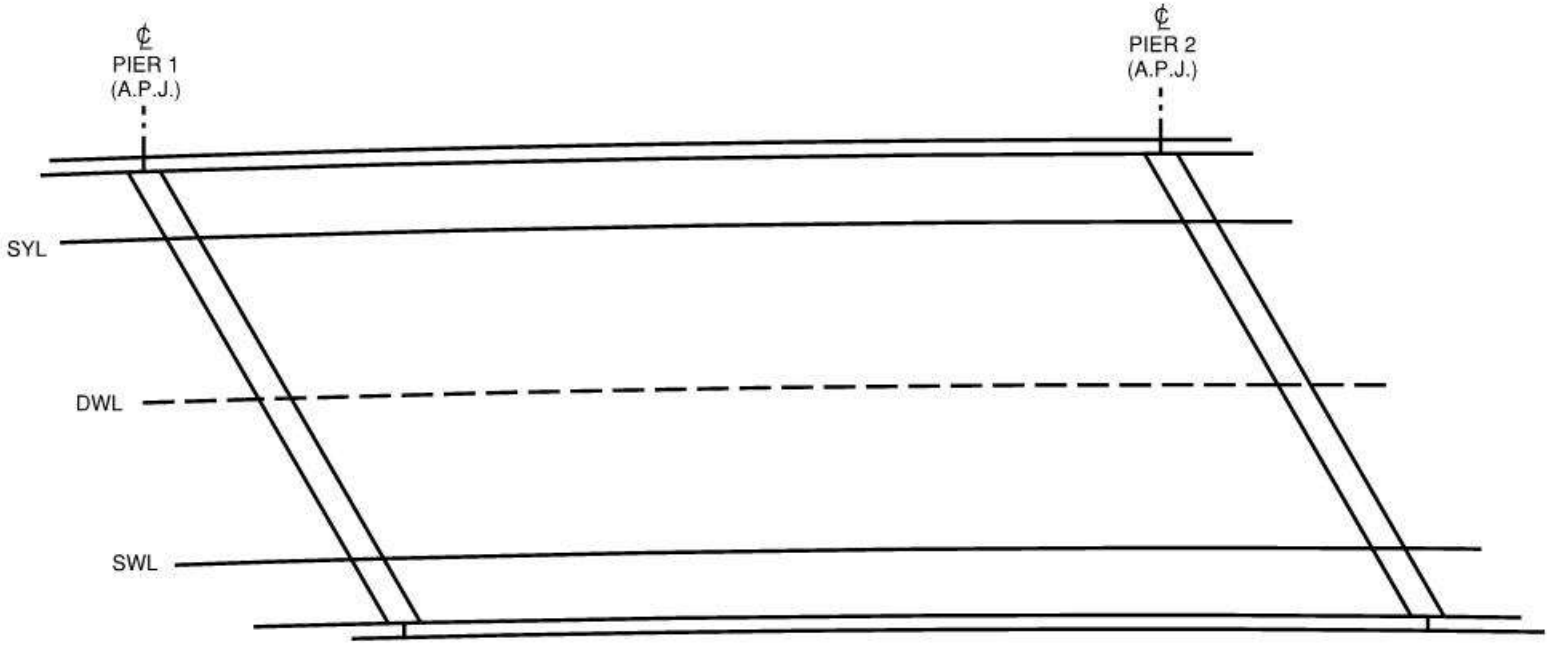
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: AS, RV	DATE: 04/05/2017	BRIDGE NO.: 01213
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LOG DIRECTION OF ROUTE ON BRIDGE →



- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT
 - SYL SOLID YELLOW LINE
 - DWL DASHED WHITE LINE
 - SWL SOLID WHITE LINE

TOP OF DECK - SPAN 2
 NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
REVISION	DATE:	CREW:	REVISION	DATE:	CREW:

Sketches

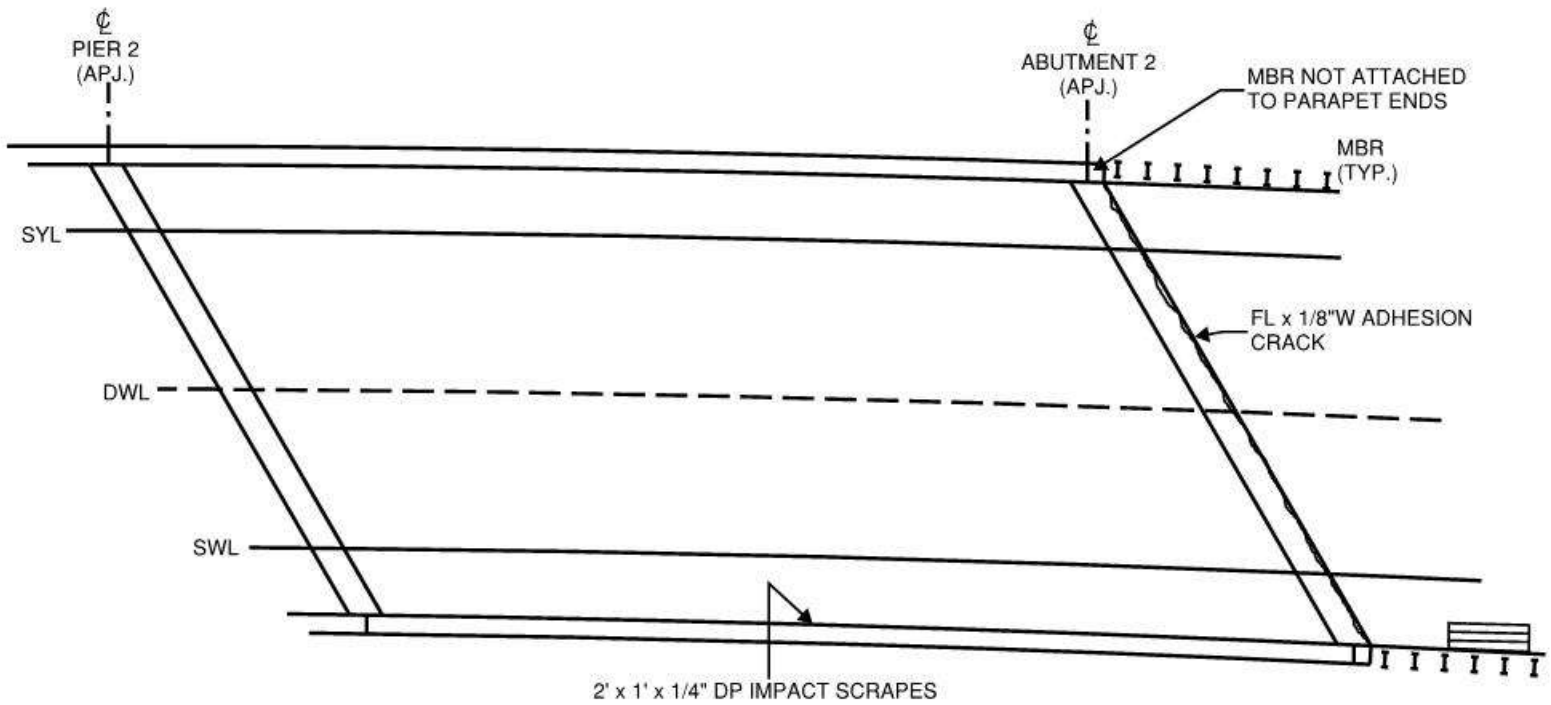
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: AS, RV	DATE: 04/05/2017	BRIDGE NO.: 01213
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LOG DIRECTION OF ROUTE ON BRIDGE →



2' x 1' x 1/4" DP IMPACT SCRAPES

- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT
 - SOLID YELLOW LINE
 - DASHED WHITE LINE
 - SOLID WHITE LINE
 - MBR

TOP OF DECK - SPAN 3
 NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
REVISION	DATE:	CREW:	REVISION	DATE:	CREW:

Sketches

Inspection type: Routine

Inspection Date: 3/27/2017

Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN

Carried: INTERSTATE 84 EASTBOUND

Crossed: HRRR & BOULEVARD ROAD

Inventory Route: NHS

CREW: RV, AS	DATE: 03/27/2017	BRIDGE NO.: 01213
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


FRAMING PLAN - GENERAL NOTES

FIXED BEARINGS:

- AREAS OF PEELING PAINT WITH LIGHT TO HEAVY RUST.
- RANDOM ANCHOR BOLT NUTS, WITH UP TO 100% SECTION LOSS .
- RANDOM BEARINGS HAVE UP TO 5/16" PACK RUST BELOW MASONRY PLATES.

GIRDERS:

- AREAS OF PEELING PAINT W/ LIGHT TO HEAVY RUST, MAINLY AT PIERS.
- GIRDER ENDS W/ AREAS OF PAINTED OVER PITTING/SECTION LOSS UP TO 3/16" DEEP (TYPICALLY 1/16" - 1/8" DEEP).

REVISION 	DATE:	CREW:	REVISION 	DATE:	CREW:
REVISION 	DATE:	CREW:	REVISION 	DATE:	CREW:

Sketches

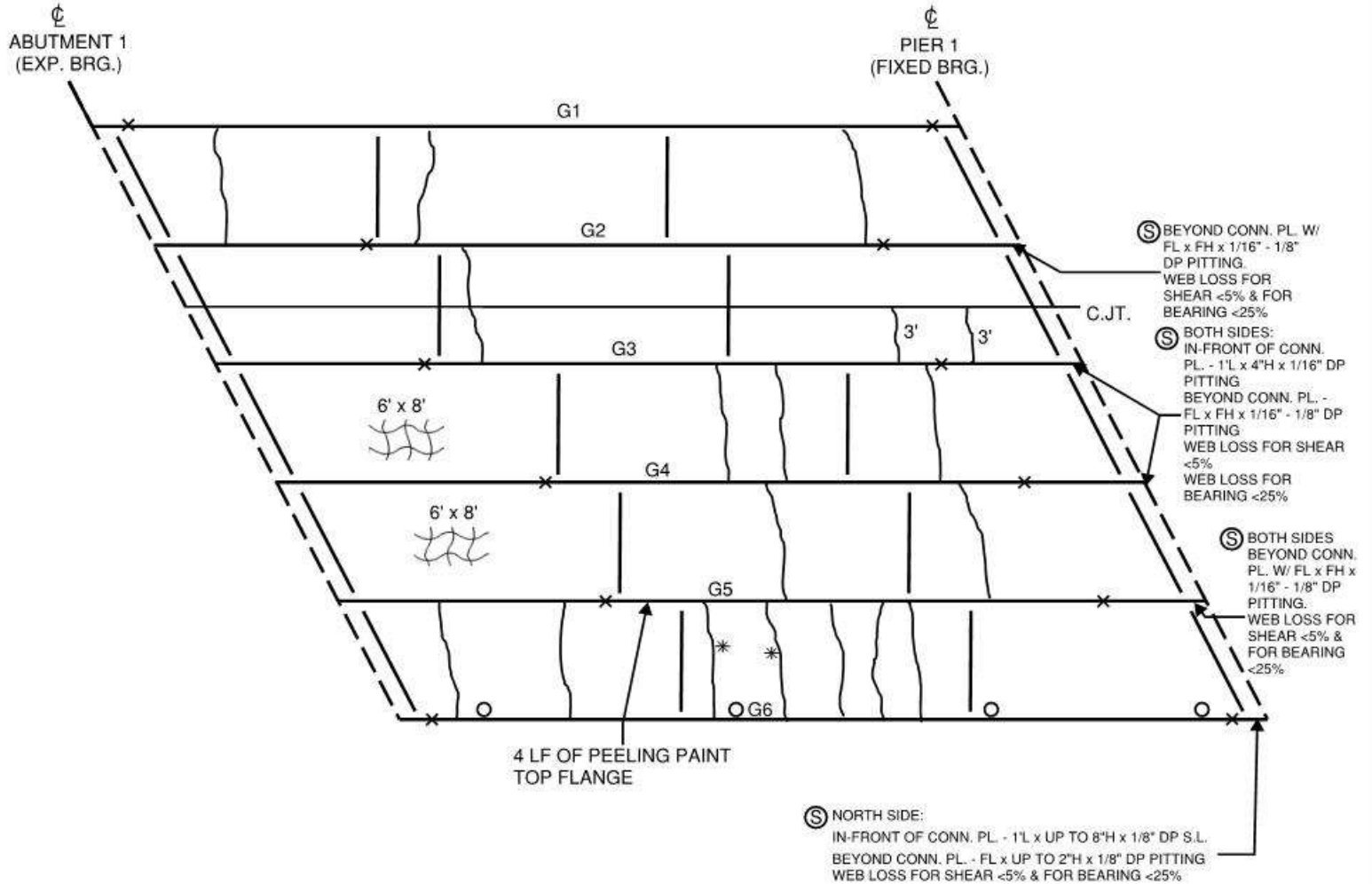
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Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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LOG DIRECTION OF ROUTE ON BRIDGE →



Ⓢ - SECTION LOSS AT BOTTOM OF WEB / WEB END

- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT
 - COVER PLATE ENDS
 - WEEP PIPES

FRAMING PLAN - SPAN 1
NTS

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

Sketches

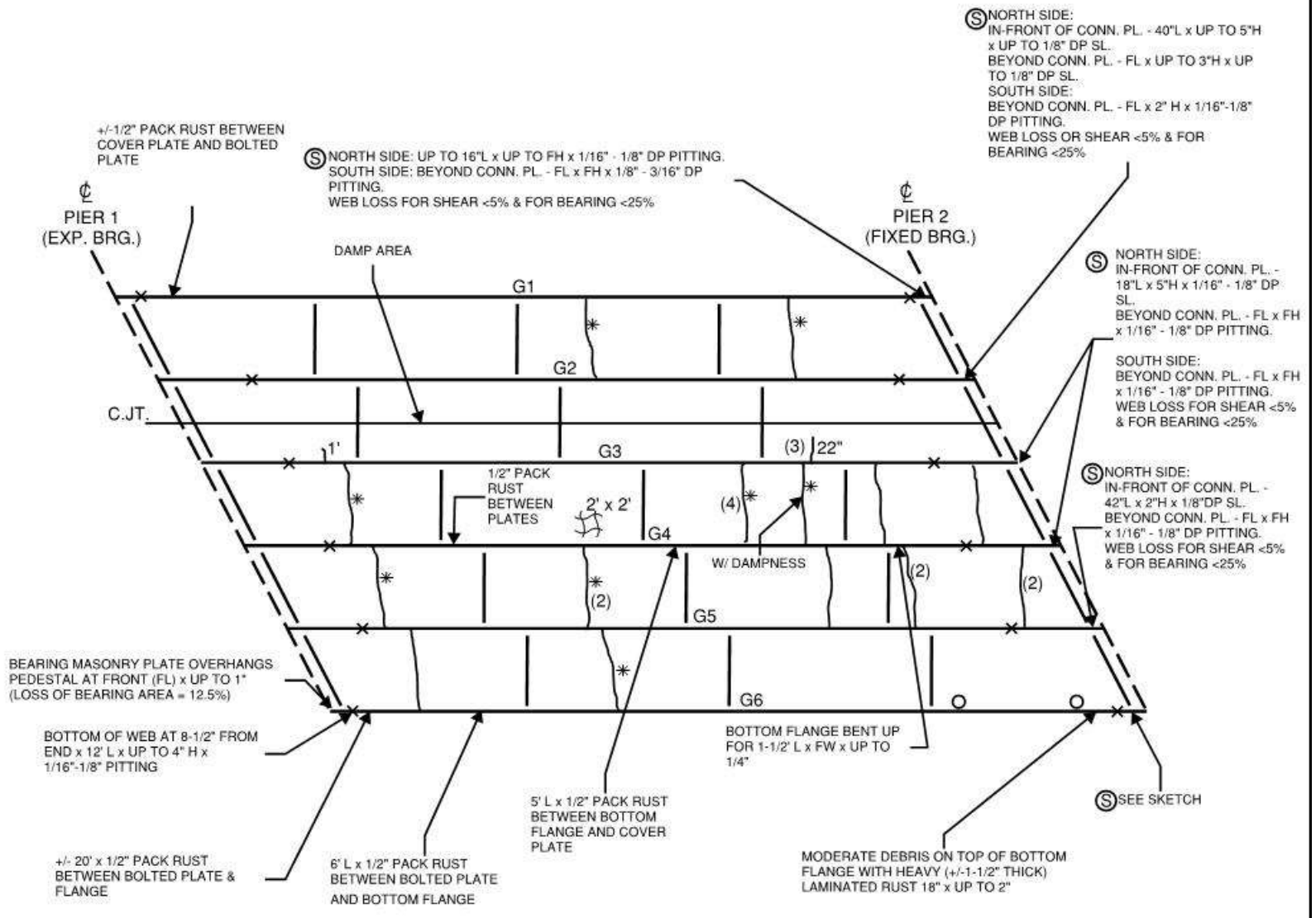
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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LOG DIRECTION OF ROUTE ON BRIDGE →



Ⓢ - SECTION LOSS AT BOTTOM OF WEB / WEB END

- LEGEND:**
- HOLLOW AREA
 - ◌ SHALLOW REBAR
 - ◌ SPALL AREA
 - ◌ SPALL AREA WITH EXPOSED REBAR
 - ◌ MAPCRACKS
 - ◌ HAIRLINE CRACKS
 - ◌ HONEYCOMB AREA
 - ◌ SCALE AREA
 - ⋆ EFFLORESCENCE PRESENT
 - ⊗ COVER PLATE ENDS
 - WEEP PIPES

FRAMING PLAN - SPAN 2
NTS

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

Sketches

Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

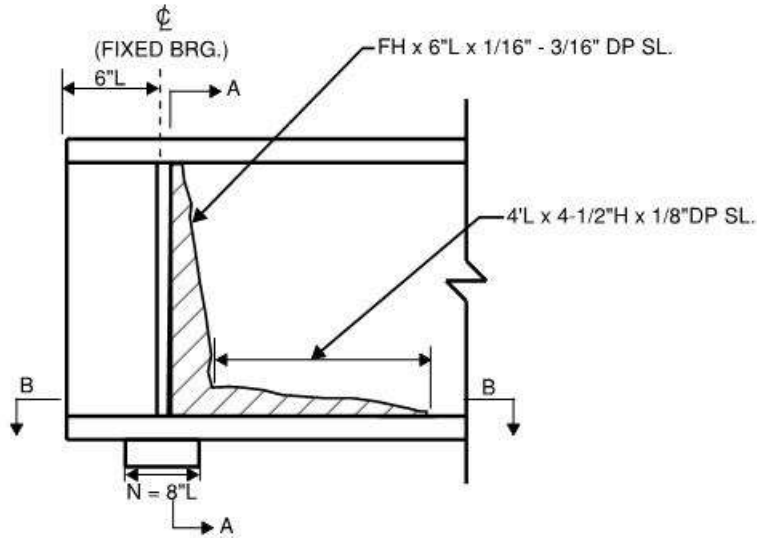
Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS

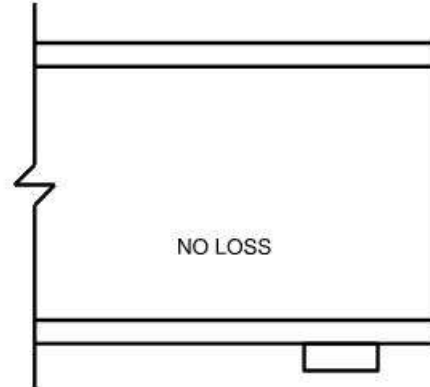
DATE: 04/05/2017

BRIDGE NO.: 01213

PER PLANS, GIRDER SECTION: 36 WF 280
 D = 36.52"; t = 1.57"; t_w = 0.885"; k = 2-11/16"
 d = 33.38"



NORTH ELEVATION



SOUTH ELEVATION

WEB LOSS FOR SHEAR (SECTION A-A):

% S.L. = $[(0.0625 + 0.1875)/2]/0.885 = 14\%$

WEB LOSS FOR BEARING (SECTION B-B):

BEARING LENGTH, $(N+2.5k) = 14.72$ in (PER AISC)

AREA OF SECTION LOSS = $[10.72 \times ((0.125 + 0.1875)/2)] = 1.675$ in²

%S.L. = $[1.675/(14.72 \times 0.885)] \times 100 = 12.9\%$

SPAN 2, GIRDER G6 AT PIER 2
(NTS)

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

Sketches

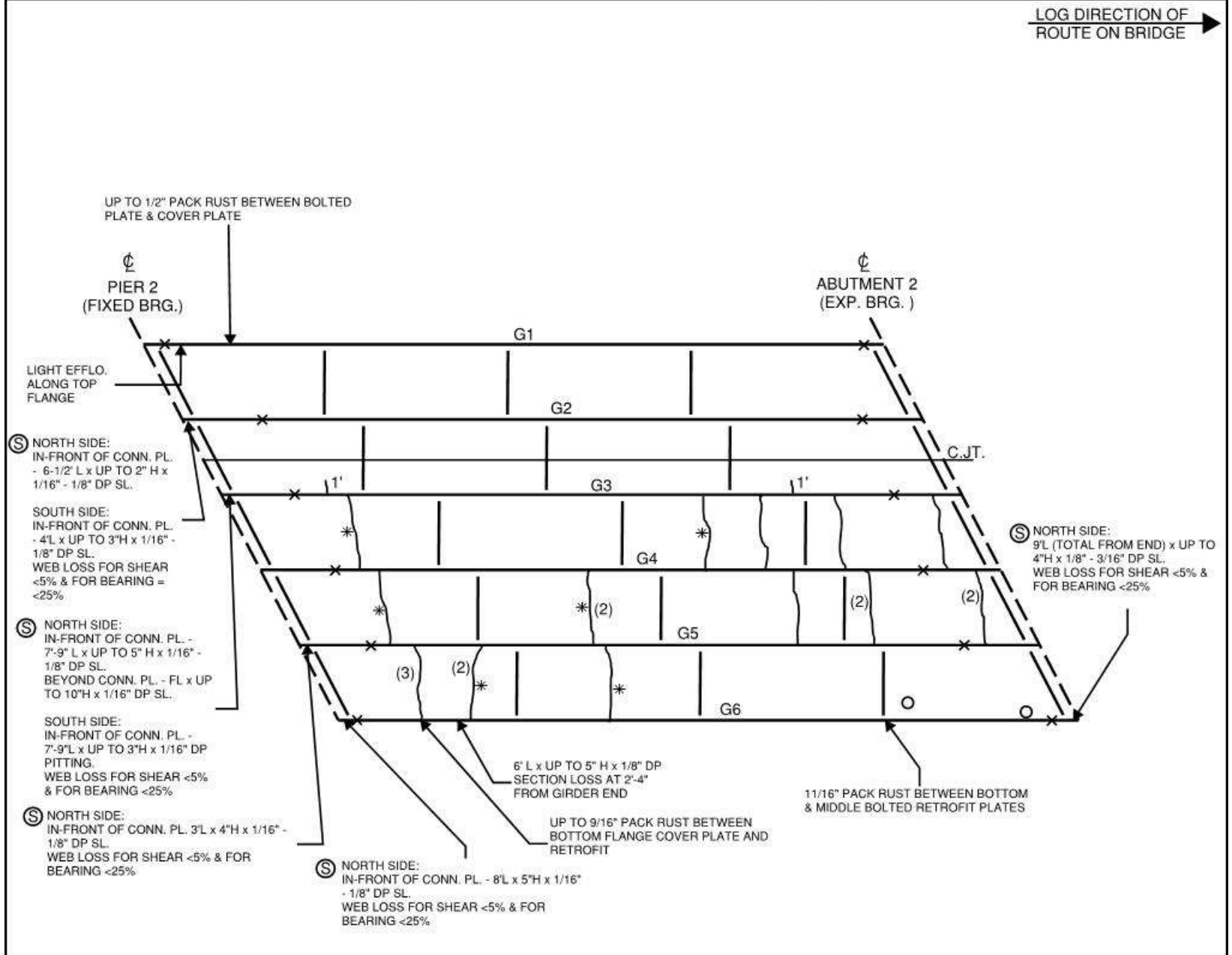
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Bridge No: 01213

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Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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LOG DIRECTION OF ROUTE ON BRIDGE →



Ⓢ - SECTION LOSS AT BOTTOM OF WEB / WEB END

- LEGEND:**
- HOLLOW AREA
 - ◌ SHALLOW REBAR
 - ◌ SPALL AREA
 - ◌ SPALL AREA WITH EXPOSED REBAR
 - ◌ MAPCRACKS
 - ◌ HAIRLINE CRACKS
 - ◌ HONEYCOMB AREA
 - ◌ SCALE AREA
 - * EFFLORESCENCE PRESENT
 - X COVER PLATE ENDS
 - WEEP PIPES

FRAMING PLAN - SPAN 3
NTS

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

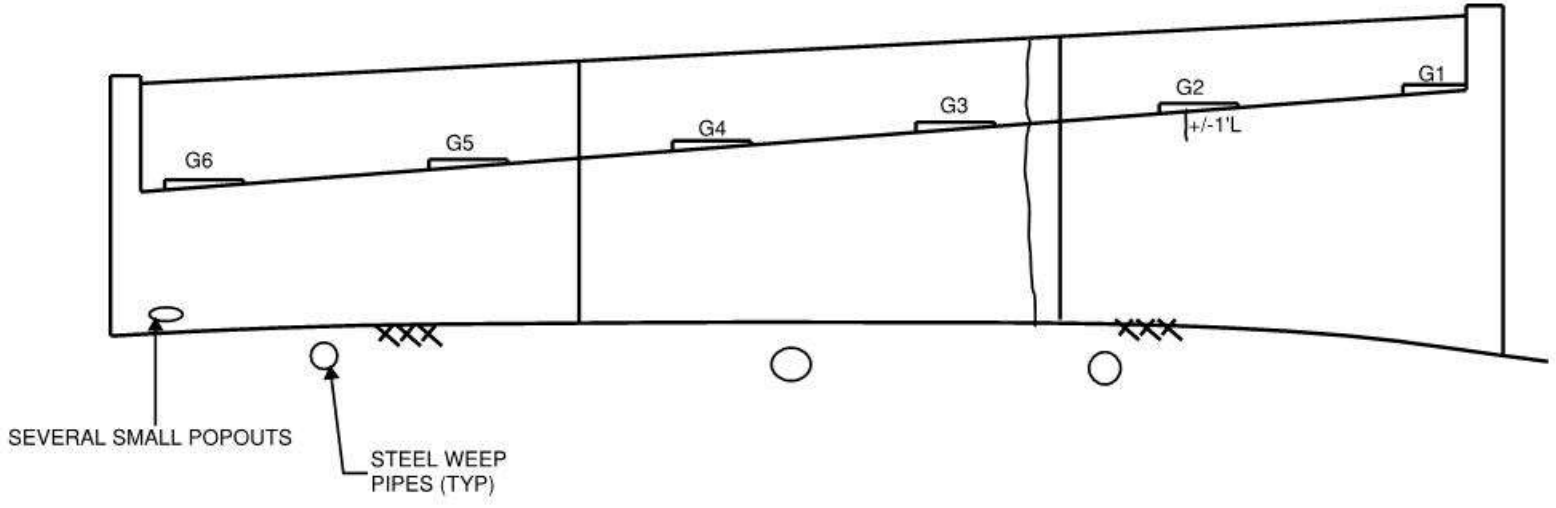
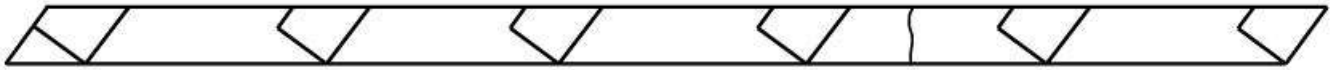
Sketches

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Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
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Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCE PRESENT

ABUTMENT 1
NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
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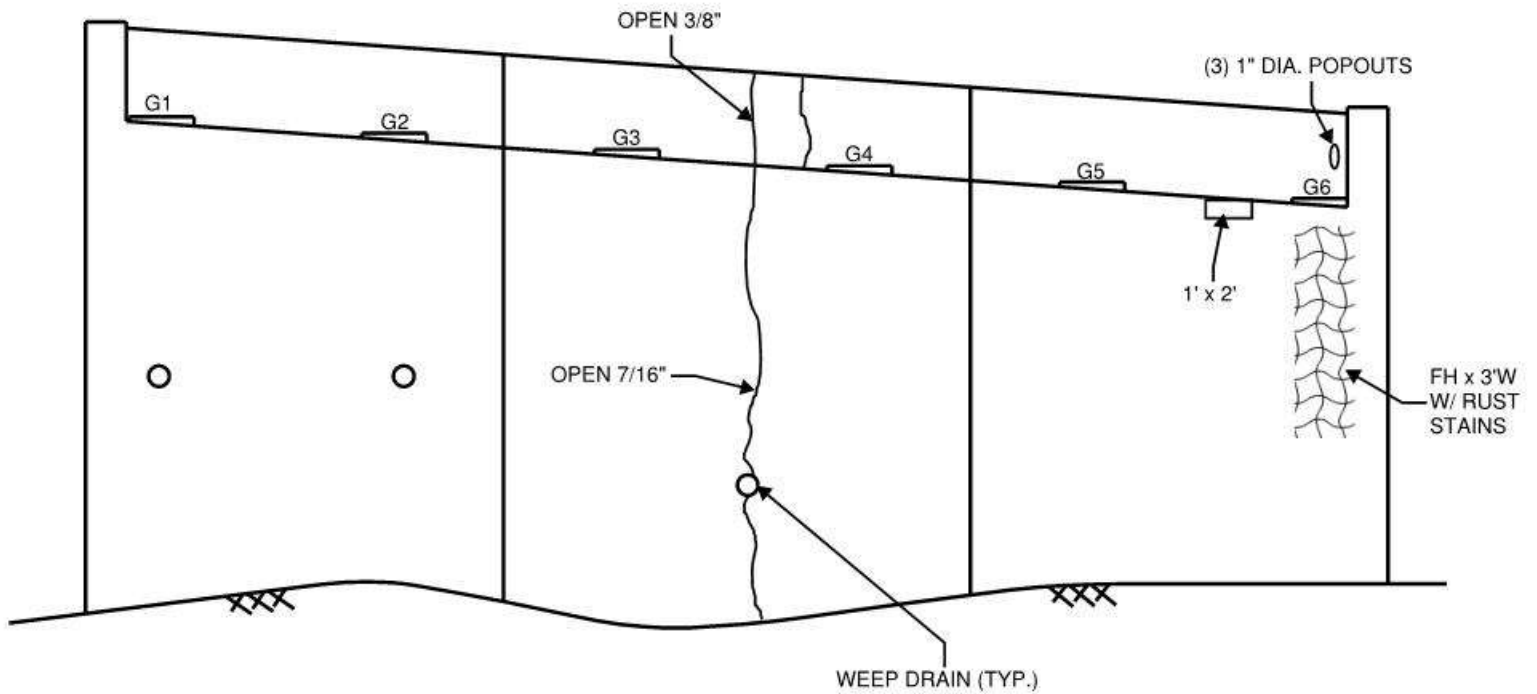
Sketches

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Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT

• AREAS OF ACTIVE LEAKAGE THROUGH THE DECK JOINT AT THE INSPECTION.

ABUTMENT 2
NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
REVISION	DATE:	CREW:	REVISION	DATE:	CREW:

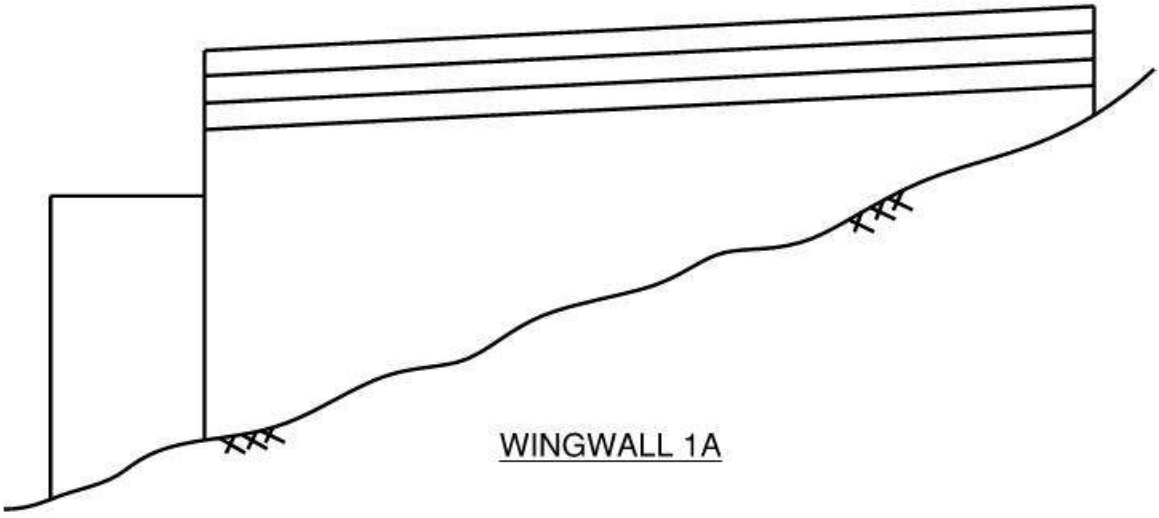
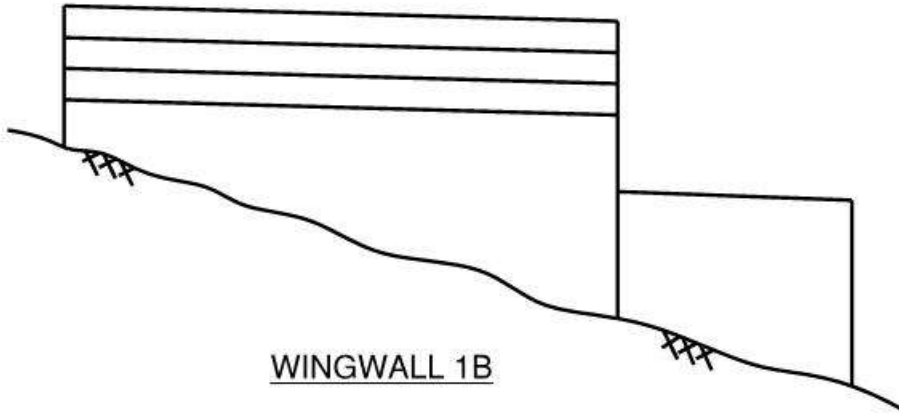
Sketches

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Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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WINGWALLS 1A & 1B
NTS

- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
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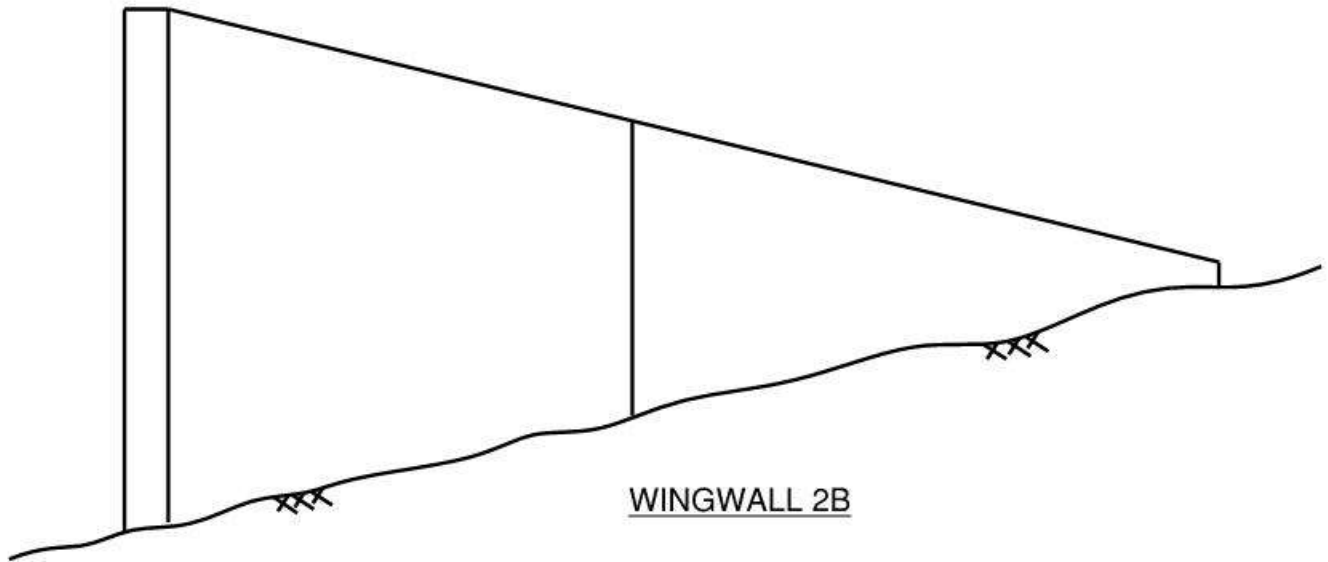
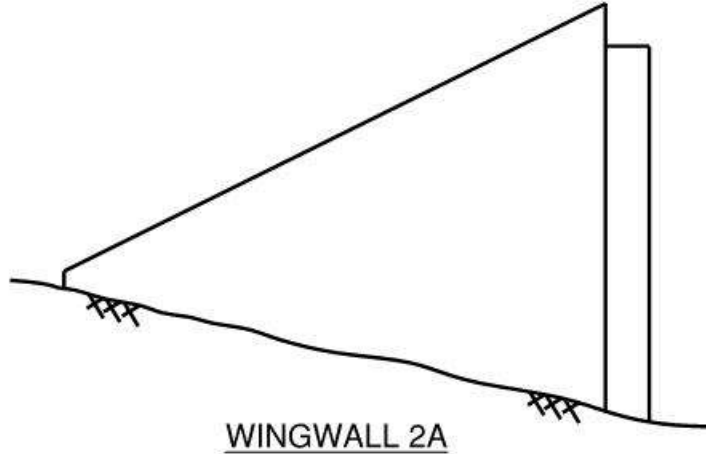
Sketches

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Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT

WINGWALLS 2A & 2B
NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
REVISION	DATE:	CREW:	REVISION	DATE:	CREW:

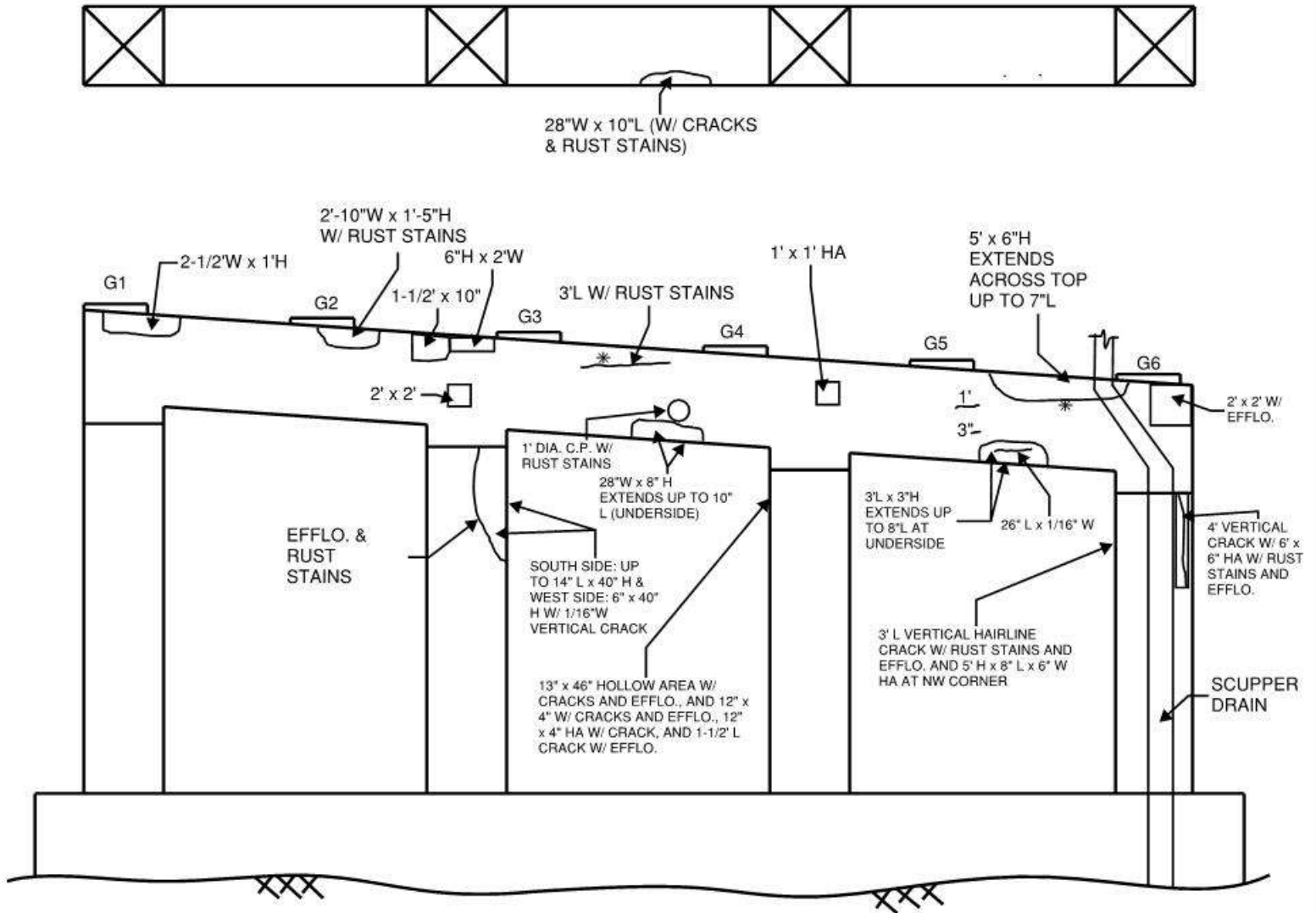
Sketches

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Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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GENERAL NOTES:

- AREAS OF LT. TO MOD. SCALING THROUGHOUT & RANDOM CONCRETE PATCHES W/ HAIRLINE VERTICAL, HORIZONTAL & MAP CRACKS.
- LIGHT TO HEAVY ACCUMULATION OF SAND AND DEBRIS ON PIER CAP.
- AREAS OF ACTIVE LEAKAGE THROUGH JOINT AT THE TIME OF INSPECTION.
- CRASHWALL W/ LIGHT TO MODERATE GRAFFITI.

LEGEND:

	HOLLOW AREA
	SHALLOW REBAR
	SPALL AREA
	SPALL AREA WITH EXPOSED REBAR
	MAPCRACKS
	HAIRLINE CRACKS
	HONEYCOMB AREA
	SCALE AREA
	EFFLORESCENCE PRESENT

PIER 1 - WEST ELEVATION
 NTS

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

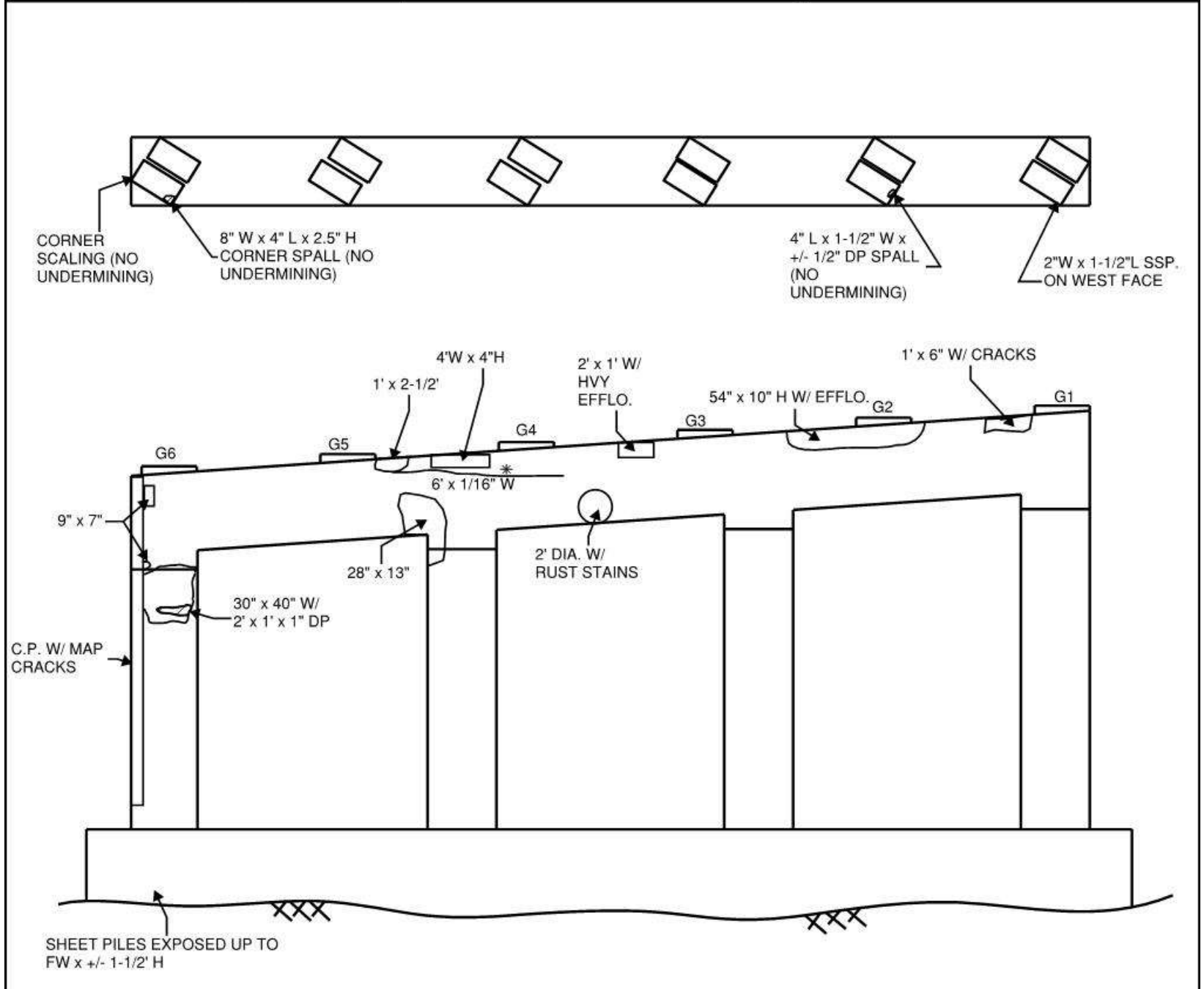
Sketches

Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT

• SEE PIER 1 - WEST ELEVATION FOR GENERAL NOTES.

PIER 1 - EAST ELEVATION
 NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
REVISION	DATE:	CREW:	REVISION	DATE:	CREW:

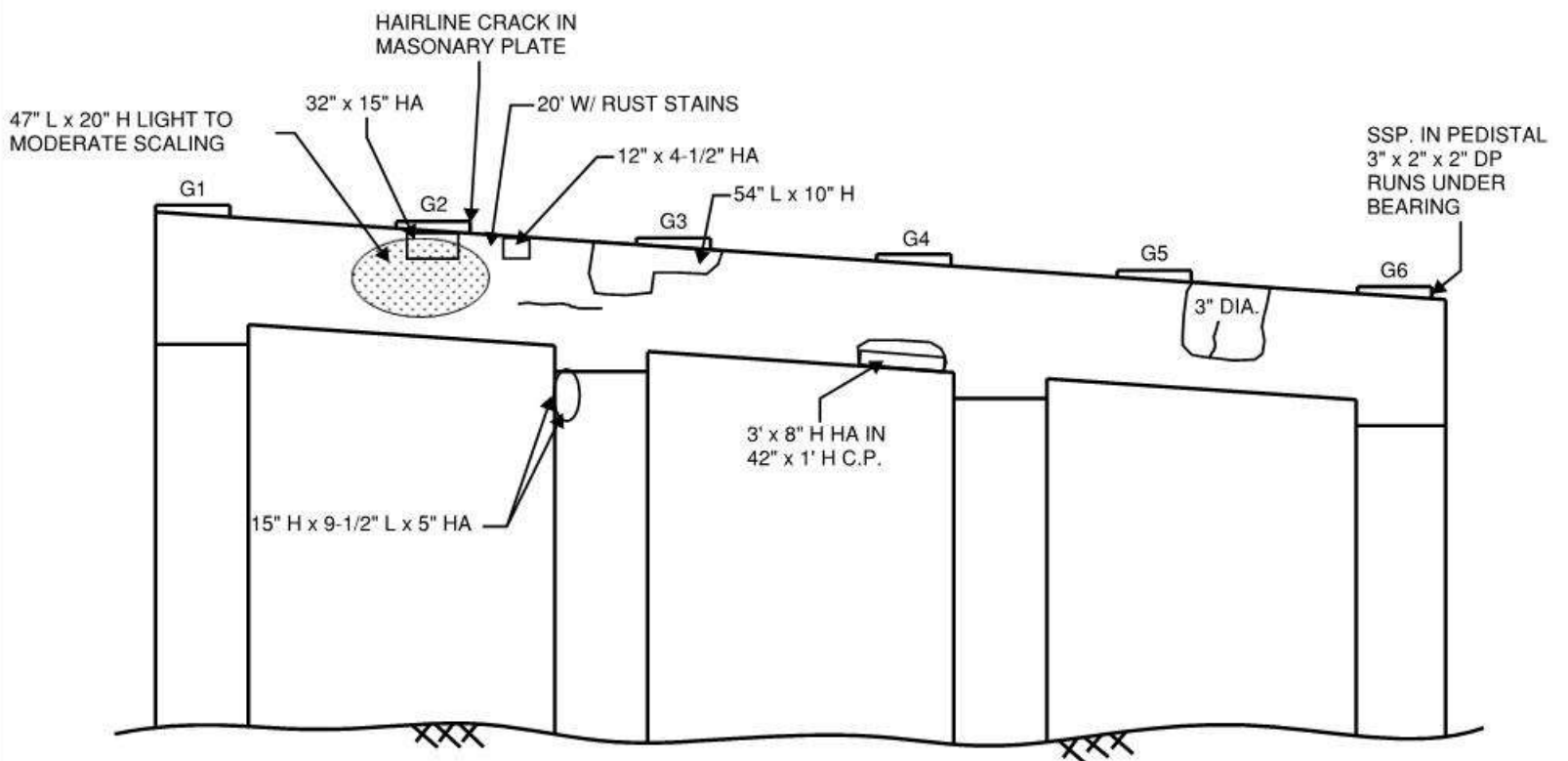
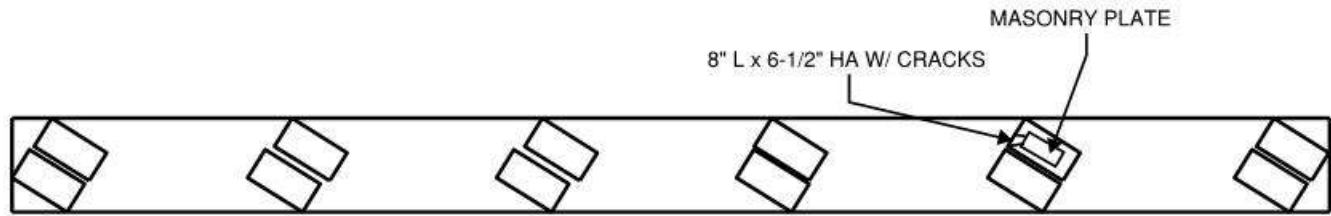
Sketches

Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
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Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCEENCE PRESENT

• SEE PIER 1 - WEST ELEVATION FOR GENERAL NOTES.

PIER 2 - WEST ELEVATION
 NTS

REVISION	DATE:	CREW:	REVISION	DATE:	CREW:
REVISION	DATE:	CREW:	REVISION	DATE:	CREW:

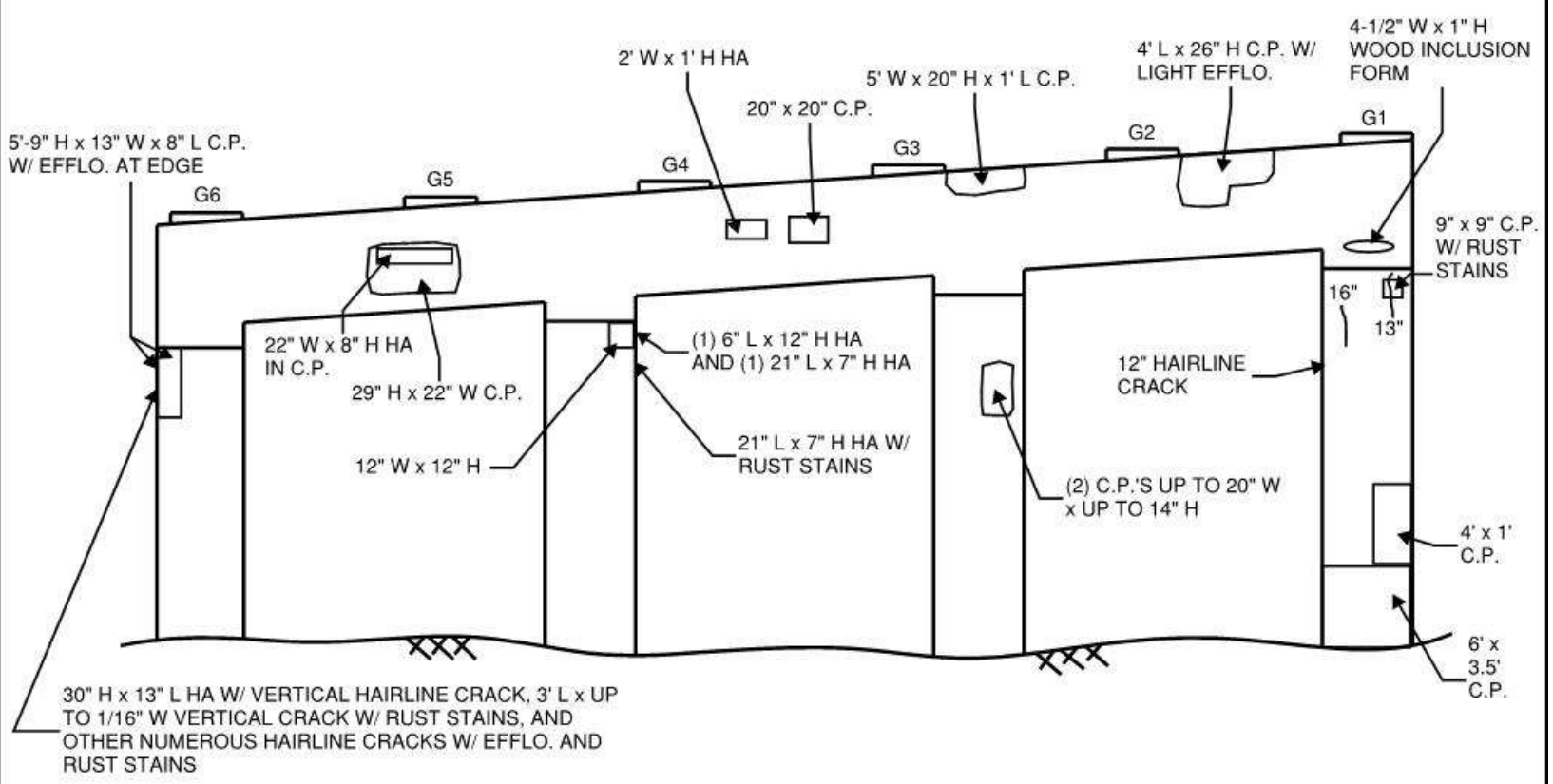
Sketches

Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
Carried: INTERSTATE 84 EASTBOUND
Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS

CREW: RV, AS	DATE: 04/05/2017	BRIDGE NO.: 01213
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- LEGEND:**
- HOLLOW AREA
 - SHALLOW REBAR
 - SPALL AREA
 - SPALL AREA WITH EXPOSED REBAR
 - MAPCRACKS
 - HAIRLINE CRACKS
 - HONEYCOMB AREA
 - SCALE AREA
 - EFFLORESCENCE PRESENT
- C.P. - CONCRETE PATCH

• SEE PIER 1 - WEST ELEVATION FOR GENERAL NOTES.

PIER 2 - EAST ELEVATION
 NTS

REVISION 1	DATE:	CREW:	REVISION 3	DATE:	CREW:
REVISION 2	DATE:	CREW:	REVISION 4	DATE:	CREW:

Form: Asset Photos
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
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Photo Number: 1

Photo Taken: 04/05/2017

Bridge Identification Number. Stenciled at the time of inspection.



Photo Number: 2

Photo Taken: 04/05/2017

South elevation of bridge.

Form: Asset Photos
Inspection type: Routine
Inspection Date: 3/27/2017
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Photo Number: 3

North elevation of bridge.

Photo Taken: 04/05/2017



Photo Number: 4

Bridge from west approach.

Photo Taken: 04/05/2017

Form: Asset Photos
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
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Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS



Photo Number: 5

Photo Taken: 04/05/2017

West approach from bridge.



Photo Number: 6

Photo Taken: 04/05/2017

Bridge from east approach.

Form: Asset Photos
Inspection type: Routine
Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

Town: NEWTOWN
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Crossed: HRRC & BOULEVARD ROAD
Inventory Route: NHS



Photo Number: 7

Photo Taken: 04/05/2017

East approach from bridge.
Note: The tapered end of the north railing is missing.



Photo Number: 8

Photo Taken: 04/05/2017

Typical condition of bituminous overlay. Paving seams are slightly open. There are random filled core holes. Span 1 shown.

Form: Asset Photos
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Inspection Date: 3/27/2017
Inspected by: HAKS Engineers

Bridge No: 01213

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Crossed: HRR & BOULEVARD ROAD
Inventory Route: NHS



Photo Number: 9

Photo Taken: 03/27/2017

Typical underside of deck & superstructure configuration and condition. Span 2 shown.



Photo Number: 10

Photo Taken: 04/05/2017

Typical underside of deck condition with random transverse hairline cracks with and without efflorescence. Note there are random areas of dampness.

Form: Asset Photos
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Photo Number: 11

Photo Taken: 04/05/2017

Typical curb, parapet and bridge railing condition. South side shown.



Photo Number: 12

Photo Taken: 04/05/2017

Span 3, south parapet has impact scrapes near mid-span.



Photo Number: 13

Photo Taken: 04/05/2017

South railing at the west end has a fully cracked weld at the tapered end. Anchor bolts are slightly backed off.



Photo Number: 14

Photo Taken: 04/05/2017

Span 1, south scupper pipe at Pier 1 is fully clogged and the grate is 60% clogged.

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Photo Number: 15

Photo Taken: 04/05/2017

Abutment 1 asphaltic plug joint, looking north. New joints are in place since the last inspection.



Photo Number: 16

Photo Taken: 04/05/2017

Close-up of previous photo in the right lane. There are areas of exposed aggregate and small voids.



Photo Number: 17

Photo Taken: 04/05/2017

Abutment asphaltic plug joint, looking north, has a full length adhesion crack on the approach side.



Photo Number: 18

Photo Taken: 03/27/2017

Abutment 2 backwall in bay 3 has active leakage through joint at the time of inspection. Note the full height vertical crack in the backwall that extends into stem.



Photo Number: 19

Photo Taken: 04/05/2017

Northwest approach jersey barrier (leading end). Typical condition.



Photo Number: 20

Photo Taken: 04/05/2017

Southwest approach jersey barrier is laterally misaligned with the end of the wingwall parapet.

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Photo Number: 21

Photo Taken: 04/05/2017

Southeast metal beam guide rail (trailing end). Typical condition.



Photo Number: 22

Photo Taken: 04/05/2017

East approach bituminous pavement. Typical condition with open paving seams.



Photo Number: 23

Photo Taken: 04/05/2017

Typical condition of the sliding expansion bearings at Abutment 1 with areas of peeling paint and light to moderate rust. Girder G6 bearing shown.



Photo Number: 24

Photo Taken: 04/05/2017

Girder G5 sliding bearing at Abutment 1 has pack rust between sole and sliding plates.



Photo Number: 25

Photo Taken: 03/27/2017

Typical condition of the rocker expansion bearings with areas of peeling paint and light to moderate rust. Girder G1 bearing at Abutment 2 shown. There is abrasion rust between the rocker and sole plate. South anchor bolt nut is missing.



Photo Number: 26

Photo Taken: 04/05/2017

Span 2, girder G6 expansion rocker bearing at Pier 1 has heavy laminated rust. South anchor bolt nut has 100% section loss. Note that the pedestal has severe scaling on south side but no undermining was noted.

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Photo Number: 27

Photo Taken: 03/27/2017

Typical condition of the fixed bearings at Pier 2 with areas of peeling paint and light to heavy rust. Girder G1 bearing shown. North anchor bolt nut has 100% section loss.



Photo Number: 28

Photo Taken: 03/27/2017

Typical condition of girders with bolted cover plate retrofits. There are areas of peeling paint and light to moderate rust. Span 3, girder G2, south elevation shown.



Photo Number: 29

Photo Taken: 03/27/2017

Typical random areas of pack rust between the girder bottom flange cover plate and bolted retrofit plate.



Photo Number: 30

Photo Taken: 04/05/2017

Span 2, south side of girder G6 bottom flange has a moderate accumulation of debris and an area of heavy laminated rust.



Photo Number: 31

Photo Taken: 04/05/2017

Span 2, north side of girder G6 at Pier 2 has painted over section loss with recurring light to heavy rust.



Photo Number: 32

Photo Taken: 03/27/2017

Typical condition of fascia girders with areas of light to moderate rust. North side of girder G1 at Pier 2 shown.



Photo Number: 33

Photo Taken: 03/27/2017

Same location as Photo #32. South side of Span 3, girder G1 has painted over laminated rust with negligible loss.



Photo Number: 34

Photo Taken: 03/27/2017

Span 3, north side of girder G6 at Abutment 2 has painted over section loss at the bottom of the web and diaphragm connection plate.



Photo Number: 35

Photo Taken: 03/27/2017

Same location as Photo #34. South side of girder end has no loss.

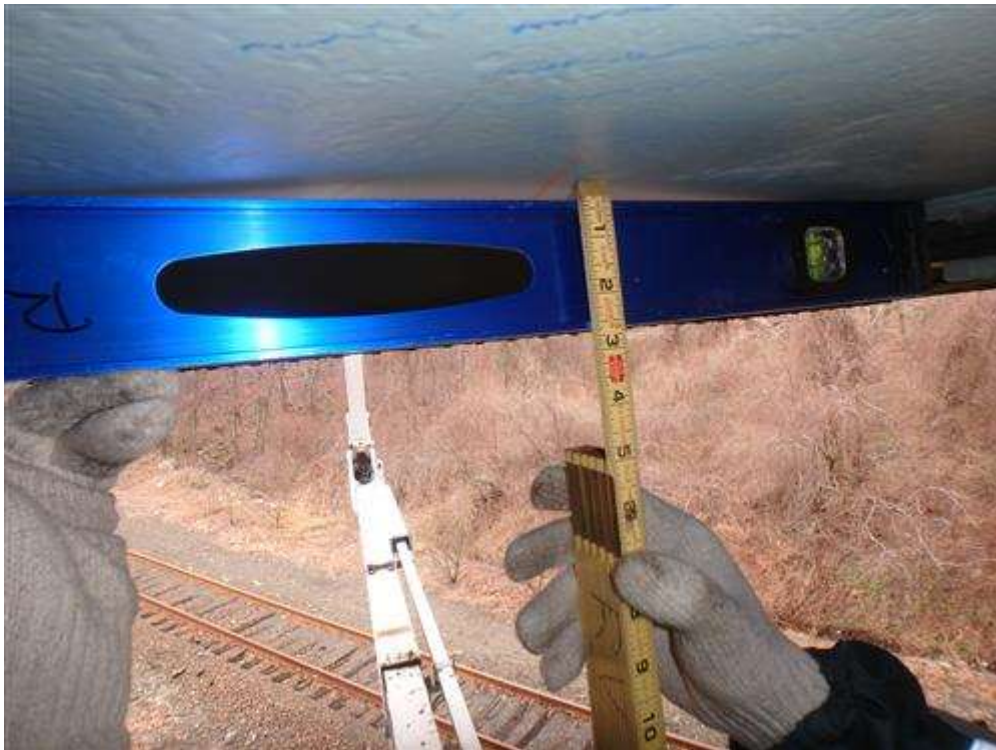


Photo Number: 36

Photo Taken: 04/05/2017

Span 2, girder G4 bottom flange at east end of cover plate is slightly bent upward (appears to as-built).

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Photo Number: 37

Photo Taken: 04/05/2017

Abutment 1 elevation.



Photo Number: 38

Photo Taken: 03/27/2017

Abutment 2 elevation.



Photo Number: 39

Photo Taken: 03/27/2017

Wingwall 2A. Typical condition.



Photo Number: 40

Photo Taken: 03/27/2017

Pier 2, east elevation.



Photo Number: 41

Photo Taken: 03/27/2017

Pier 1, east elevation. Crash wall has areas of light to moderate graffiti.



Photo Number: 42

Photo Taken: 04/05/2017

Pier 1 cap below girder G1 in Span 1 has a hollow area. Girder pedestal has a corner spall with no undermining.



Photo Number: 43

Photo Taken: 04/05/2017

Pier 1 cap below girder G2 in Span 2 has a hollow area with cracks and light efflorescence.



Photo Number: 44

Photo Taken: 04/05/2017

Pier 2 cap below girder G2 in Span 2 has an area of moderate scaling and hollow area.



Photo Number: 45

Photo Taken: 04/05/2017

Pier 2, girder G2 pedestal in Span 2 has a hairline crack on the South side that extends to the anchor bolt.



Photo Number: 46

Photo Taken: 03/27/2017

Pier 2, girder G5 pedestal in Span 3 has a hollow area with cracks on the south side.



Photo Number: 47

Photo Taken: 04/05/2017

Pier 1, Column 4, east side, has a hollow area with spall.



Photo Number: 48

Photo Taken: 04/05/2017

Same location as previous photo. Concrete patch on the south side of cap and column has hairline map cracks.



Photo Number: 49

Photo Taken: 03/27/2017

Pier 2, Column 4, south side has a hollow area and random cracks with and without rust stains & efflorescence.



Photo Number: 50

Photo Taken: 04/05/2017

Pier 1 sheet pile is exposed on the east side.

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Photo Number: 51

Photo Taken: 04/05/2017

Pier 1 cap below bay 1 has moderate to heavy debris.